

# School of Information Student Research Journal

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SAN JOSÉ STATE UNIVERSITY, SCHOOL OF INFORMATION

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**SLIS Student Research Journal** 

### VOLUME 4, ISSUE 2 TABLE OF CONTENTS

#### Editorial

Social, Legal, and Technical Issues in the Library Adrienne Mathewson, San José State University

#### **Invited Contribution**

A Correctional Type of Day Vince Wiggins, State of New Mexico Corrections [Retired]

#### Articles

Serving the Needs of Homeless Library Patrons: Legal Issues, Ethical Concerns, and Practical Approaches Paul Kaidy Barrows, San José State University

Website Blocked: Filtering Technology in Schools and School Libraries Jennifer M. Overaa, San José State University

Copyright, Fair Use and the Digital Age in Academic Libraries: A Review of the Literature Amanda McCormick, State University of New York at Buffalo

Digital vs. Print: Reading Comprehension and the Future of the Book M. Julee Tanner, San José State University

# SJSU | SCHOOL OF INFORMATION

**SLIS Student Research Journal** 

Volume 4 | Issue 2

Article 1

December 2014

# Social, Legal, and Technical Issues in the Library

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I am proud to announce that the Editorial Team of the *Student Research Journal (SRJ)*, published by the San José State University School of Information, has produced another excellent issue. Our second issue of Volume 4 includes an Invited Contribution by a retired New Mexico State Corrections librarian, and three articles from Library and Information Science (LIS) graduate students from SJSU's School of Information, and one from a LIS graduate student at SUNY Buffalo.

Under the guidance of Sara Kelso, *SRJ*'s outstanding Managing Editor, our content and copy editors maintained the high quality of the journal through their careful and thoughtful evaluation of submissions. This issue was created through the efforts of our content editors - Alex Post, Alicia Zuniga, Laura Stanger, Lawrence Mak, Jason Baker, Tacoma Tomlinson along with Stephanie Routhier-Perry and Kristin Clark, our eagle-eyed copy editors.

Along with producing the journal, our team members presented at the Library 2.014 conference. The presenters discussed best practices for authors and editors of peer-reviewed publication and manuscript submission during their presentation of "Get Published! The Best Advice for Students Submitting to Peer-Reviewed Journals".

The articles published in this issue point out how modern librarians use a multi-disciplinary approach to serving their patron base. For some librarians, such as our invited contributor, a former prison librarian, going to work each day means facing safety and security issues in a stressful prison environment. Public librarians face security issues, as well, as many of the homeless population use their facilities on a daily basis. Along with the social aspects of their jobs, librarians must familiarize themselves with several legal issues, such as website filtering, copyright laws, First Amendment and technical issues.

Vince Wiggins, a retired New Mexico Corrections librarian, provides the reader with an account of the day in the life of a prison librarian in his article "A Correctional Type of Day". Librarians in prisons face many challenges, but as Wiggins says, "while it's not everybody's dream job, it can be rewarding". He explains that many times inmates simply need somebody to talk to and "listening can help prevent fights, stabbings, bullying…or other types of disturbances".

Paul Kiaidy Barrows defines the social aspect of librarianship further in his article "Serving the Needs of Homeless Library Patrons: Legal Issues, Ethical Concerns, and Practical Approaches". According to Barrows, libraries have a commitment to "democracy and equal access" but providing services to homeless populations may test that commitment. As well, homeless people have a range of information needs and libraries provide their primary access to information.

Another social and legal issue facing librarians, particularly in school settings, is that of website filtering. Jennifer Overaa discusses the Children's Internet Protection Act (CIPA), a federal law that "requires public schools and

libraries to use filters as a condition of receiving federal funding for technology". Her article provides a legal background of CIPA and discusses the impact such filtering has on students' education in terms of the digital divide, lost opportunities for online education, and loss of educators' control.

Amanda MCormick provides an excellent review of literature on copyright in her article "Copyright, Fair Use and the Digital Age in Academic Libraries: A Review of the Literature". Research indicates that "librarians must play an increased role in copyright law education" as librarians are "stewards of information... (and) the library is the main access point through which information flows".

Julee Tanner, in her paper on the future of the book, explains that restrictive publisher licenses and high costs limit the amount of digital books available for checkout from public libraries. The article "Digital vs. Print: Reading Comprehension and the Future of the Book" provides a fascinating explanation on the "advantages of reading from printed books, e-readers, and computer displays from the perspectives of the optical issues, cognitive needs, and metacognitive habits of different readers".

Every day, librarians face myriad issues as they grapple with the social and legal needs of their patrons while dealing with ever-changing technology. Librarians must educate themselves continually as they provide solutions to people from every walk of life. Research journals such as *SRJ*, help librarians keep up with the latest research so they can continue to provide services to diverse populations. We thank you, our readers, for your continued interest in our articles, and we thank our contributors who work so hard to advance LIS scholarly research.

I'd like to give a very special thanks to Sara Kelso who always went over and beyond her duties as Managing Editor, I greatly appreciate all her hard work and devotion to the journal. Also, a very special note of appreciation to our faculty advisor, Dr. Anthony Bernier who continues his dedication and support to *SRJ*, along with the Editorial Board members and School of Information faculty members.

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#### **SLIS Student Research Journal**

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Article 2

December 2014

# A Correctional Type of Day

Vince Wiggins Retired NM Correctional Librarian, nmcdlam@msn.com

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Library work can be rather satisfying. Through helping patrons, a librarian can have a positive or unfortunately a negative effect. Our demeanor, receptiveness and attitude can have an impact that often we will never know. What is true for librarians, both public and educational, can be even more profound for corrections librarians.

I have recently retired after 21 years as a librarian, both general and legal, in the New Mexico Corrections Department. While it is not everybody's dream job, it can be rewarding. I would like to take you on a little journey through one of my workdays from the time I entered the facility until I left it.

First, a short description of the facility I worked in. It contains three different Units with different levels or types of inmates – Minimum or Honor with low custody; Minimum Restrict or low custody, which because of the crime or time left to serve, are in a more restrictive Unit; the Intake or Medium to Maximum Unit. The Intake Unit is where all inmates come for classification after sentencing and has everything from bad check writers and DUI (Driving under the Influence) violators to rapists, armed robbers and murderers. The Intake Unit also contains Mental Health, Segregation and Medical Units. The average number of inmates is about 1200. There are four general libraries and one legal library serving these Units. The Intake Unit is transient in nature with inmates there for a 60 to 90 day maximum. The other Units tend to be more stable in population.

With the background set, now it is time to start the day. It begins before seven a.m. with entering the Administration Building by clearing the metal detector. Clearing the detector can be an adventure all by itself. It is set more sensitive than courthouses or airports. Depending on the settings, weather, static electricity in the air, and whatever imp that lives inside machines, I can either go straight through or practice a modified striptease with any possible type of metal setting it off before I'm allowed to enter.

After clearing the detector, it is off to check mail and pick up the library keys from the Master Control with an exchange of key tag for the keys. Now off to pass B Control, which controls access to the back of the prison. I turn my ID to the officer here and gain access to the Compound. My first stop now is either the Security Office or the Yard Sergeant to find what is going on, i.e., problems, lockdowns, events and planned disruptions.

Now I enter the Education Building where the Library is located. If I am the first one in the building, I do a check of inside doors to make sure doors are secure and there are no surprises. If I find a problem, I report it to Security and an officer comes in to do a security check and make sure it is safe for staff. One day I found the building was flooded because a sprinkler head had broken off and roughly half of the building, including the electrical room and classrooms, had up to an inch water. While maintenance staff turned off the water and electricity and the water cleared off, all activities were on hold. After the security check, and depending on what the officer has told me, I either open the library, prepare for my inmate workers to come in and begin planning activities or I do office work that I do not need inmates. At this point, 30 to 45 minutes of the workday are done.

By this time, a building officer is present. If not, we cannot have inmates in the building. Now assuming everything is working smoothly, my workers come in between seven thirty a.m. and eight a.m.

The first activity of the day is preparing for the book run. At this library, inmates do not have direct access. They request books from an up-to-date list in their Units, list the books on a request form and mail it in. The library workers and I fill in the requests and prepare a list of inmates who have books. Lists of the inmates receiving books that day go to the Units and the inmates come to the library to turn in their old books and pick up the new ones. It takes 30 minutes to an hour for each Unit and we do three Units a day. We do four days of book runs. The remaining time is to shelve returned books and fill new requests for the next run. The one day a week there is no book run scheduled is spent cleaning the library and serves as a catchall day to cover Units who were unable to come due to activities preventing their access.

A second activity involves book delivery to Segregation and Medical Units. The inmates request books the same way population inmates do. The major difference is the segregation inmates have books delivered to their Units. These deliveries can be time-consuming, depending on the number of book requests and if an inmate needs to talk. Again, inmates turn in old their books and receive for new ones they sign for at the time. Most of the time, the inmates are respectful and appreciative. Occasionally an inmate becomes belligerent with a fair degree of cursing, threats, and rarely, fortunately, urine or feces flies. It is rare that an inmate is upset with the library or librarian, but we become the recipient of anger or frustration aimed at other inmates, officers, the administration, or news from home. Afterward, the upset inmate generally either writes an apology note or apologizes face to face on the next delivery.

At times, inmates just need or want to talk. It can range from problems, to information, to just want to converse with someone who is not an inmate or security. Inmates are good sources on how the facility is doing. Listening can help prevent fights, stabbings (aka shankings for prison show fans), bullying or other types of disturbances.

During the day, there is an hour to hour and a half break while security does count and feeds the inmates. This is time to eat and catch up on paperwork, go to meetings, or get confidential work done to which the inmates are not supposed to have access.

On lockdown days, there is more time to catch up with office work without interruption. For lockdowns under three days, there is office work. For

longer lockdowns, the Units receive book service as above. With luck, inmate workers can come and help prepare books.

At three p.m., the day ends. I lock the library, clear B Control, turn in keys, drop off mail, exit the Administration building and go home.

Of all the jobs and tasks, a major one to remember in corrections is that we are there to support security. Library books are a tremendous distraction for the inmates and help them occupy their minds.

Not everyone can work in a correctional setting. The routine changes from day to day and sometimes from moment to moment. It is a good career with potential to have a positive affect on individuals.

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**SLIS Student Research Journal** 

### Volume 4 | Issue 2

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# Serving the Needs of Homeless Library Patrons: Legal Issues, Ethical Concerns, and Practical Approaches

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# Serving the Needs of Homeless Library Patrons: Legal Issues, Ethical Concerns, and Practical Approaches

#### **Cover Page Footnote**

This article was originally written to fulfill the requirements of LIBR 200, Information and Society, taught by Dr. Scott Walter, as part of the MLIS program at the San Jose State University School of Information.

While cognizant of their social mission, public libraries still have often found it challenging to serve one of their most marginalized constituencies – the homeless. In an essay in *American Libraries*, Will Manley (1998) wrote, "The homeless can be the bane of our existence; but despite the inconveniences that they create, we librarians are consistently in the forefront of championing their needs and securing their rights" (p. 128). It is telling that Manley wrote those words during an economic boom period. Now, following a chronically stalled economy, the lives of the poor and homeless have become even more tenuous – and as a result they are reaching out to public libraries even more (see, for example, Lai, 2012; MacNaughton, 2011; Scott, 2012).

American Library Association (ALA) core values of access, democracy, and serving the public good make it an ethical imperative to serve the needs of the poor and homeless (American Library Association, 2004; 2008; 2012; 2014); and, according to a landmark lawsuit (Kreimer v. Morristown – see Ballard-Thrower, R A. (1992); Barber (2012)), libraries have a legal mandate to do so as well. But how can public libraries accommodate this often misunderstood, disparaged, and underserved group?

This paper aims to provide background, insights, and guidance to public libraries and librarians struggling with this matter. Information has been drawn largely from peer-reviewed journals, most sources having been published within the last 10 years. Beginning with an overview of pertinent issues together with their legal and ethical dimensions, the exploration moves on to examine selected library programs that serve this population effectively, and to consider a trend among library schools to provide social service-related coursework and training. Finally, the discussion section will distill some key recommendations for library professionals about how to address the needs of their homeless patrons.

Providing services to the poor and homeless may test the commitment of public libraries to democracy and equal access, but ultimately it is an opportunity to put the American Library Association's core values into practice.

#### Why Serve the Homeless?

#### Legal Issues

Kreimer v. Morristown, NJ is a landmark federal case relating to intellectual freedom, public libraries, and the First Amendment (Barber, 2012). Richard Kreimer was a homeless public library patron whose odor and behavior (staring at patrons and following them around, and responding aggressively to library staff) was disturbing to patrons and library administration. In response to this particular individual, the library established several behavior policies that led to Kreimer's repeated expulsion. Following his fifth expulsion, Kreimer sued Morristown, NJ,

claiming that his constitutional rights were being violated (Ballard-Thrower, 1992; Barber, 2012; Geiszler, 1998).

Although the District Court, where the suit was originally filed, and the subsequent Appeals Court, varied somewhat in their findings regarding the library's actions, two extremely important legal rulings vis-à-vis public libraries came out of the litigation. The first is that there is a constitutionally protected right to *receive* information under the First Amendment; i.e., that freedom of expression is not just limited to freedom of speech, but also includes the right to free access to information. Thus, any attempt by a library to limit patrons' access is subject to Constitutional scrutiny, and may be a violation of their civil rights (Ballard-Thrower, 1992; Barber, 2012; Geiszler, 1998; Hitchcock, 2005).

The second important ruling established that it is permissible for libraries to expel patrons who violate behavior policies, as long as those policies meet First Amendment standards. That is, that they are reasonable, and not vague, and not overbroad in their application (Barber, 2012; Geiszler, 1998; Hitchcock, 2005). Later in this paper, the creation of patron behavior policies will be explored in some detail, as adopting such a policy is very much to a public library's advantage (Barber, 2012).

#### **Ethics and Values**

The ethics and values of public librarianship derive from a history of supporting human rights and the public good (McCook and Phenix, 2006). The American Library Association's stance on the responsibility of libraries toward economically vulnerable patrons is unequivocal. Core values of access, democracy, service, and social responsibility create an ethical mandate to serve the poor and homeless (American Library Association, 2004). As stated in the American Library Association's Policy B.8.10, Library Services to the Poor: "It is crucial that libraries recognize their role in enabling poor people to participate fully in a democratic society, by utilizing a wide variety of available resources and strategies" (American Library Association, 2014). The policy aims to reduce economic barriers to library use, as well as to promote greater understanding among librarians and within society of poverty's dimensions. In addition, the American Library Association's Social Responsibilities Round Table formed the Hunger, Homelessness, and Poverty Task Force in 1996 to "foster greater awareness of the dimensions, causes, and ways to end hunger, homelessness, and poverty" (American Library Association, 2012).

Serving the poor and homeless is both a challenge and an opportunity to put the American Library Association's core values into practice (Ayers, 2006). By offering information on a world of topics from the practical to the esoteric, public libraries can connect the poor and homeless to both essential resources and possibilities for personal growth (Ayers, 2006; Murphy, 1999). The public library can serve as a unique space where members of different social strata may interact – sometimes with conflict but sometimes with increased mutual familiarity and understanding. The public library can also take an active role in reaching out to social service agencies, even partnering with them to offer comprehensive services (Murphy, 1999).

As a result of living and working within a society that often equates material wealth with social worth, even the best-intentioned librarians may hold ambivalent or classist feelings toward their poor and homeless patrons (Berman, 2007). They may need to engage in careful self-assessment to evaluate how well they are actually adhering to American Library Association ideals. More than being sources for specific types of information, librarians must be aware of their attitude when assisting the poor and homeless, whose interactions with the institutional establishment frequently leave them feeling unworthy (Berman, 2007; Hersberger, 2005; Holt, 2006).

#### **Information Needs of the Homeless**

The homeless have a range of information needs including information about finances, relationships, childcare, housing, health and health care, employment, education, transportation, and public assistance (Hersberger, 2005). In addition, because full participation in society in general – and specifically in the areas of education, employment, and government – now requires access to technology and the Internet, the homeless keenly experience the "digital divide" and rely on public libraries to bridge this gap (Ayers, 2006; Collins, 2009; Hersberger, 2002; Jaeger, Bertot, & Thompson, 2012). Among homeless children, unfamiliarity with computer use, computer games, and computer technology not only can set them back academically, but can stigmatize them socially among their peers (Norfolk, 1995).

A paramount need among the homeless is for information about food and housing (Holt & Holt, 2010; Lai, 2012). Reference librarians trained to assist patrons with research questions may be unprepared to answer inquiries about such basic physiological needs. Holt & Holt (2010) recommend that public libraries compile comprehensive information about community resources – for example, those where the homeless can get a bed and food – and put this information on the library's website. When patrons ask a librarian for referrals to such resources, the librarian can immediately go to the website and print off the appropriate listings. Or, patrons who do not wish to speak directly with a librarian can access the information themselves from a computer kiosk within the library.

Muggleton and Ruthven (2011) caution librarians not to err by placing exclusive attention on providing referrals to basic services. These authors point

out that homeless patrons also need information that fosters higher social and intellectual growth, reminding librarians that the homeless have the same emotional, self-esteem, and identity needs as others.

#### **Patron Codes of Behavior**

In spite of the efforts of public libraries to serve all patrons fairly, including homeless patrons, the potential exists for real conflict between the homeless and other patrons and staff, leading some librarians to label the homeless as problem patrons. In the midst of such conflict, librarians must carefully differentiate between what is truly problem behavior, and what is really only nuisance behavior (Murphy, 1999). Holt & Holt (2005), who have written extensively on the subject of serving poor and homeless library patrons, make a statement somewhat at odds with the assessments of other authors: "Public library use is not a right but a privilege regulated by law and the willingness of the board, administration, and library staff to make consistent use of those laws" (p. 74). As described earlier, the courts have determined that there is a Constitutional right to receive information. While libraries are permitted, under certain circumstances, to bar problem patrons, those circumstances must be grave enough to warrant depriving a patron of a civil right. Therefore, libraries must carefully develop an effective and legally defensible patron behavior policy.

Geiszler (1998) noted that each rule in a patron behavior policy must satisfy three conditions: it must be reasonable, cannot be overbroad, and cannot be vague. While many libraries have established patron behavior policies, often they do not meet these criteria and may be thinly-veiled attempts to single-out and bar the poor and homeless (Shen, 2002). For example, common among patron prohibitions is one against offensive body odors, despite the subjectivity of its enforcement, and its failing to prohibit such strong odors as perfumes. Many libraries prohibit bringing unusual or oversized objects into the library. Shen (2002) found that a public library in Tacomah, WA, had enacted a rule prohibiting bedrolls, large boxes, and bulky bags, and that libraries in Detroit, Savannah, and Charlotte also had rules restricting the size of objects that may be brought into the library. However, these rules may unfairly bar the homeless, who may need such things with them for survival (Shen, 2002).

For libraries attempting to draft a patron behavior policy, Holt & Holt (2005) provide specific advice, including that the library should hire a lawyer with public agency experience, and write the document in simple language that staff and patrons can easily understand. They recommend soliciting input from library staff, and making sure staff members understand the final policy and how to implement it – as well as what their own rights are. Staff should be trained in how to appropriately document incidents, and administration must follow up on

all incidence reports. If necessary, the library should hire private security personnel, and at all times maintain a good relationship with the local police.

Holt & Holt (2005) offer guidance for handling an incident if one should arise, with maintaining safety the primary concern. The librarian should continually assess any potential for escalation to violence, avoid any physical contact with the patron, and respond to the patron calmly and pleasantly while directing others out of harm's way. Any intervention to address a problem behavior should be made incrementally. The librarian should begin by calmly advising the patron what specific behavior violates the policy. If the behavior continues, the librarian should ask the patron to leave. If the patron does not leave, the librarian should advise the patron that he or she is trespassing. If the patron still does not leave, the librarian should call the police. When the police arrive, if the patron is still there, the librarian should advise the police that the library wants to institute criminal charges. If the patron has left, the librarian should ask the police to file an official Offense Report. Throughout the incident, the librarian should remain keenly observant in order to accurately report all that transpired.

#### **Creating Change: Model Programs**

#### "Get Into Reading" and "Book Well": Literature as Therapy

McLaine (2010, 2011) profiled two "bibliotherapy" programs used by public libraries with vulnerable populations like the homeless. In Get Into Reading (in the UK) and Book Well (in Australia) facilitators were trained to read literature aloud to groups of listeners, and elicit responses from them as a way of helping them talk about their thoughts and experiences. "It is hard to explain precisely what happens in a facilitated readaloud group. The new facilitators say 'something magic happens', and describe it as 'a slippery but powerful thing'. These groups go beyond a book club approach to literature, into therapeutic areas" (McLaine, 2010, p. 142).

Materials chosen had to have sufficient depth and complexity to evoke personal sharing of stories and experiences, and facilitators had to be trained in such skills as how to shift the focus of discussion from the text to the sharing of personal stories and experiences. This included selecting key stopping points within the text, facilitating issues that might arise, and allowing for silences while listeners absorbed and contemplated what they had heard (McLaine, 2010).

An evaluation of the Book Well program showed many positive outcomes. Attendance had remained high throughout the course of the program, as had participant enthusiasm. Benefits to participant wellbeing were also found, such as increased levels of confidence and social interaction, and reductions in anxiety (McLaine, 2011).

Programs like these accomplish a range of goals associated with public libraries. For example, they provide access to materials that the listeners might not have encountered on their own. By making connections between literature and listeners' personal experiences, they contribute to an appreciation for reading, education, and lifelong learning. And by fostering the development of underserved populations like the homeless, they contribute to the overall public good. Thus, programs like these may be useful interventions for public libraries to implement.

#### San Francisco Public Library: Full-Time Social Worker on Staff

In 2009, San Francisco Public Library became the first in the nation to add a fulltime social worker to its staff, to perform outreach to the library's large number of homeless patrons (Scott, 2012). With costs shared by Department of Public Health, this action came in response to increasing numbers of poor and homeless library patrons asking for help finding food and shelter, as well as a desire to make the library's main branch – located adjacent to one of San Francisco's poorest neighborhoods – a safer place (Robinson, 2010; Scott, 2012). The social worker oversees a cadre of "Health and Safety Associates" (some of whom were formerly homeless themselves) who keep an eye on patrons, approaching those who appear in need, and also making sure that all abide by the library's behavior policy (Guidelines for Library Use – see San Francisco Public Library, 2014). During its first three years of operation, the program provided outreach services to 1,200 homeless patrons (Scott, 2012).

As difficult economic times ground on, the demographics of homeless patrons widened to include students unable to make student loan payments, and families who had lost housing. Unlike a typical drop-in shelter, the library is a setting in which homeless patrons are not segregated away from the rest of society, and thus can receive assistance while still feeling part of the mainstream (Scott, 2012).

The program, in keeping with the social mission of public libraries and the American Library Association's core values, seeks to make the library accessible to all, as a necessary part of a democratic society (Scott, 2012). Serving as a national model, San Francisco Public Library's social work program has inspired other urban libraries to provide similar services, including public libraries in Sacramento and San Jose (Scott, 2012).

#### Martin Luther King, Jr. Library, San Jose: Community Connections

The Martin Luther King, Jr., Library in San Jose is a unique institution with a combined city-university constituency and mission. Services for homeless patrons are comprised of an innovative network of library and community resources (Collins, Howard & Miraflor, 2009).

A cornerstone of the library's approach is outreach. Rather than waiting for the homeless to come to the library, the library has devised ways to take its services, classes, and collections to other community agencies that serve the homeless. For example, librarians teach computer classes, family literacy programs, and lead story times and book discussion groups at social service agencies. Outreach efforts also serve to encourage the homeless to make subsequent visits to the library for programs, classes, and cultural events.

The library augmented its reference services by adding information resources specifically geared toward the needs of the homeless. "Social Workers in the Library" and "Lawyers in the Library" assist homeless patrons to negotiate a range of needs including shelter, employment, education, and childcare (Collins, Howard & Miraflor, 2009; San Jose Public Library, 2014a; 2014b). The library also found it was possible to make adjustments to existing programs and services to make them more accessible to the homeless, such as scheduling programs around the times that shelters and soup kitchens operate, and offering temporary library cards that provide computer access (Collins, Howard & Miraflor, 2009).

By partnering with community agencies, the King Library serves as a model for how to weave together a network of library and social services that provides maximum benefit without duplicating efforts or budgets.

#### Trends in Librarian Education: Training Librarians to Meet Social Needs

As difficult economic times impel public libraries to increase efforts to meet the informational and social service needs of poor and homeless patrons, so too are some library schools designing curricula to prepare future librarians for the social service aspects of their careers.

Dominican University's Graduate School of Library and Information Science and Graduate School of Social Work offer a dual degree program in Social Work (MSW) and Library and Information Science (MLIS). Emphasizing the intersection of librarianship with social work endeavors, the dual program draws upon the values, knowledge, and practices of both fields to better serve community needs. Graduates earn two distinct degrees – the MSW and MLIS – in a shorter time than would be required to earn the two degrees separately (Dominican University, 2014; Lai, 2013).

At the time of its inception, the Dominican program was only the second of its kind in the nation, the other being the Master of Science in Information/Master of Social Work (MSI/MSW) program at the University of Michigan. Like the Dominican program, Michigan's MSI/MSW program combines the knowledge and skills of these two related fields so that future social workers will be better able to meet the informational needs of their clients, and future librarians will be better trained at furthering the public good (University of Michigan, 2014).

While not all library schools offer such dual degree programs, others may still address the social issues training of future librarians through such coursework as service learning experiences. For example, as a means of re-connecting library students with the social roots of librarianship, the SUNY Buffalo Department of Library and Information Studies created a service learning program in which library students designed and established a library for a homeless shelter (Peterson, 2003). Collaborating with shelter administrators, they tailored all aspects of the project, including collection building, writing a mission statement, and establishing a board of directors, to the particular needs of the homeless living in the shelter.

#### Discussion

With a fundamental social role to improve the public good, public libraries (and librarians) face both opportunities and challenges in serving what is perhaps their most marginalized constituency – the homeless. This section distills some of the key recommendations for action from the material covered earlier in this paper. There are a number of things that librarians (or library students) can do as individuals, as well as actions that can be taken by libraries at the institutional level.

#### Things a Librarian (or Library Student) Can Do

- Examine one's own attitudes for hidden classism and prejudices that may blame the poor for their predicament. Harboring prejudices or classist ideologies, even unconsciously, can surface in decisions and actions that make the poor and homeless feel unworthy or disparaged (Berman, 2007; Holt, 2006).
- Seek out related coursework and social service experiences while in school or through continuing education (Lai, 2012; Zetterwall, 2014). The American Library Association recognizes the need for training programs to prepare library staff to deliver services to constituents who are poor or homeless (American Library Association, 2014).

- Understand that the homeless are a diverse group with basic and higher-level needs. Like all human beings, the homeless need not only food and shelter, but opportunities for mental and spiritual development, and for fostering positive interpersonal relationships. They are not a homogeneous group, but include a range of ages, family statuses, and representatives of both genders, and the causes and duration of their homelessness vary widely (Hersberger, 2005; Holt & Holt, 2010; Muggleton & Ruthven, 2011).
- Explore and make contact with community resources for the homeless. There is a growing convergence between librarianship and social services (Dominican University, 2014; Lai, 2012; Zetterwall, 2014). By searching the Internet, probing local news and media sources, and making personal connections, librarians can become their own experts on the subject, as well as contribute to library efforts to expand services.

### Things a Library Can Do

- Develop an effective and legally defensible patron behavior policy. In order to maintain the safety and order of the library, and keep it a pleasant place for all, every library needs to develop such a policy, under the guidance of an experienced attorney (Holt & Holt, 2005).
- Include a homeless resource page on the library's website. With this information easily accessible on the library's website, librarians and patrons alike will be able to find the needed resources efficiently (Holt & Holt 2010).
- Partner with community organizations who work with the homeless. With budgets tight during difficult economic times, forming collaborations allows both the library and its partner organizations to further their missions with shared resources (American Library Association, 2014; Collins, Howard & Miraflor, 2009).
- Make experts like social workers and lawyers available in the library, either as regular staff or visiting professionals. Reference librarians may not always have the necessary expertise to answer legal questions or navigate the local social service system. Public libraries like those in San Francisco and San Jose have found it very effective to locate individuals with that kind of expertise right in the library either full time, or on a part-time visiting basis (Collins, Howard & Miraflor, 2009; Scott, 2012).

### Conclusion

Is it possible to move beyond seeing the homeless as a separate constituency, while still recognizing their unique needs? Must librarians always be "caught in the middle" as referees between "regular" patrons and homeless patrons, serving

as a kind of benevolent police force? Can libraries create a truly "classless society" among their patrons? Perhaps only in a utopian world can there be such blurring of status boundaries. Yet, public libraries are unique in the way they bring members of all social strata together under one roof, each pursuing some activity relating to an aspect of self-care, self-nurturance, or inner development. Public libraries, then, may not only be institutional outgrowths of a democratic society, they may also be its incubators, as people learn to share space with, and interact with, people who may be from very different stations in society than their own. By fully responding to the American Library Association's core values of equal access for all, public libraries model the behavior they would have their patrons emulate, not only demonstrating but creating the kind of society for which they stand.

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# SJSU | SCHOOL OF INFORMATION

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# Website Blocked: Filtering Technology in Schools and School Libraries

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Internet access at schools has exploded over the last 15 years, and today nearly 100% of primary and secondary students have access to the Internet at school. In addition, the way technology is being used is changing rapidly, with a move away from static first generation websites and the advent of more collaborative and content building sites, blogs, wikis, and social media. As student Internet use increases and changes, schools are faced with a variety of technical, legal, educational, and philosophical challenges. The Children's Internet Protection Act (CIPA), a federal law passed in 2001, requires public schools and libraries to use filters as a condition of receiving federal funding for technology. Therefore, to protect children from inappropriate content, and to comply with the Children's Internet Protection Act (CIPA), almost all K-12 schools use filtering software to block undesirable content.

Is filtering software the best or only way to protect our students? Research shows that filtering software is not 100% effective in protecting students from inappropriate content, and in fact often blocks sites that do not contain offensive content. The continued use of filtering software also has First Amendment implications. Students are blocked from information they may want or need to access and even if the site can be unblocked by request, that extra step creates a chilling effect on free speech. The use of filtering software negatively impacts the quality of education by blocking Web 2.0 sites and online tools students need in order to receive a 21<sup>st</sup> century education. Filtering software may have its place in schools; however, careful and limited use of the software combined with non-technological strategies will better enable students to access the information and tools they need for 21<sup>st</sup> century learning while remaining protected from inappropriate content.

#### **Literature Review**

Recent research on this topic includes two articles published in 2010. Willard (2010) explores the notion that by relying on filters to protect our children, we are creating a false security that information retrieved is not only safe but also credible, and blocked information is neither safe nor credible. In fact, research and testing on filtering software shows that this is often not the case, and we are doing the students a disservice by depriving them of the opportunity to learn how to navigate safely online and assess the quality of the information retrieved (Willard, 2010). Jansen (2010) explores the issue from an intellectual freedom perspective, noting the rise of Web 2.0 sites and arguing that blocking social media sites in schools calls into question the "erosion of the principles of intellectual freedom for youth" (p. 48). Jansen also discusses the negative impact that filters have had on 21<sup>st</sup> century learning. School librarians and teachers consistently report that their schools' filters deny access to Web 2.0 tools such as

wikis, blogs, and collaborative sites and tools (Jansen, 2010). Both articles make recommendations to permit greater student online access while still protecting and educating the students.

A number of informative studies regarding the use of technology at school and home have been published since these articles were written. The Bill & Melinda Gates Foundation (2010), the National Cyber Security Alliance (2011), the American Association of School Librarians (2012), the U.S. Department of Education (2010 and 2012), and the Pew Research Center (2013) have all released studies and statistics regarding student Internet use and access at school and home, the impact of the Internet on education, and/or efforts at cyber-education. Cumulatively, these studies highlight the increasing importance of technology and Internet access to modern-day education. Technology is prevalent at schools, and teachers desire to continue using technology in their classrooms. One survey of middle school and high school teachers found that 92% of these teachers believe that the Internet "has a 'major' impact on their ability to access content, resources, and materials for their teaching" (Purcell, Heaps, Buchanan, & Friedrich, 2013, p. 2). Another study of 40,000 public school classroom teachers found that an astounding 95% either somewhat or strongly agree that digital resources (such as classroom technology and Web-based programs) engage students in learning, and 93% agree that these resources help student academic achievement (Bill & Melinda Gates Foundation, 2010). This wide spread approval of technology as a teaching tool will continue to gain strength as new teachers favor technology to an even greater degree than their veteran counterparts (Bill & Melinda Gates Foundation, 2010).

However, research also shows that filtering of online content is "nearly universal across schools or school libraries" (American Association of School Librarians [AASL], 2012, p. 13) and can negatively impact the way technology is used in schools. In one survey, teachers report that filters impede student research (52%), discount social aspects of learning (42%), and impede continued collaboration outside of face-to-face opportunities (25%) (AASL, 2012).

#### Discussion

There are many challenges to having Internet access in schools and school libraries. As primary and secondary schools across the country develop 21<sup>st</sup> century learning environments with increased and better technology in school libraries and classrooms, librarians, school staff, and districts struggle with how to manage the online environment in a way that protects the children from inappropriate content, complies with applicable laws, and still supports learning.

To meet that challenge, almost all public K-12 schools use filtering software. In Willard's 2010 article, she cites a National Cyber Security Alliance

report that asked "Which of the following describes the policies and/or procedures your school/school district uses to ensure appropriate use of technology and the According to Willard, "of the school administrators surveyed, 95 Internet?" percent identified filters, and 91 percent identified the blocking of social media networking sites as the means to ensure appropriate in-school Internet use" (p. 56). Jaeger and Zan find an even higher use of filters in schools. In their 2009 article, they state that "[a]ccording to the latest report by the Department of Education ... by 2005, 100 percent of public schools had implemented both the Internet filtering strategy and safety policy strategy" ("How many public schools", para. 1). A recent study conducted by the American Association of School Librarians found that "[w]hen asked whether their schools or districts filter online content, 98% of the respondents said content is filtered" (AASL, 2012, Executive Summary, p. 1) and when respondents were asked if content for students is filtered by their school or the district, 100% of the respondents answered "Yes" (AASL, 2012, Executive Summary, p. 2). Whatever the exact figure, it is clear that nearly all schools rely on filtering technology.

#### The Children's Internet Protection Act

Why is filtering so prevalent? The Children's Internet Protection Act, or CIPA, is a federal law that makes filtering essentially mandatory for public schools. It requires a school to show that it is using filtering technology to block obscene images, child pornography, or images that are "harmful to minors" before it can receive significantly discounted rates from the federal government (known as E-Rates) on technology services and equipment. Without this discount, public schools are not able to afford the technology.

**Legal background of CIPA.** CIPA is the culmination of several failed attempts by the federal government to regulate content and protect children from undesirable content on the "virtually unregulated Internet" (Menuey, 2009, p. 41). Prior to CIPA, the Communications Decency Act of 1996 made it unlawful to place adult-oriented material online where minors could access it; however, in the case of *Reno v. ACLU* (1997), the Supreme Court ruled that this act was unconstitutional (Menuey, 2009). Congress tried again to restrict online content by implementing the Child Online Protection Act of 1998 ("COPA"), which "prohibited any transmission for commercial purposes of material deemed 'harmful to minors'" (Menuey, 2009, p. 41) as defined by "contemporary community standards" (Menuey, 2009, p. 41). Although the Supreme Court in *Ashcroft v. ACLU* found the community standard test appropriate, it sent the case back down to the lower court for further review and barred the federal government from enforcing the law until review was complete (Menuey, 2009).

The lower court eventually issued a permanent injunction against COPA's enforcement, finding it unconstitutionally vague and overbroad (*ACLU v. Gonzales*, 2007).

While COPA was still mired in legal limbo, Congress quickly passed yet another Internet regulation act – the Child Pornography Prevention Act of 1996 ("CPPA"), "which sought to bar from the Internet sexually explicit material involving what 'appear(s) to be a minor,' including 'virtual child pornography' and 'morphed' child pornography" (Menuey, 2009, p. 41). Again, Congress failed – in *Ashcroft v. Free Speech Coalition* (2002) the Supreme Court struck down CPPA for being overly broad and therefore unconstitutional.

Learning from its mistakes, Congress finally found limited success in controlling online content with the Children's Internet Protection Act ("CIPA"), signed into law in late 2000. This act differed from its failed predecessors by focusing on the controlling the recipient – public schools and libraries – rather than the distributor of questionable content (Menuey, 2009). "Instead of placing restrictions on the Web, CIPA places restrictions on schools and libraries that receive federal funding" (Meuney, 2009, p. 41). In addition, for the first time, CIPA used Congress' power under the spending clause of the U.S. Constitution to regulate content (Jaeger & Yan, 2009). "CIPA's force comes from [this power]; that is, Congress can legally attach requirements to funds that it gives out" (Jaeger & Yan, 2009, "Why were only libraries and schools chosen", para. 4).

In *United States v. ALA* (2003), the ALA challenged CIPA's constitutionality. The Supreme Court reversed a lower court's finding that mandatory filtering for public libraries was unconstitutional. Justice Rehnquist, in writing for the majority, found that:

[A]ssuming again that public libraries have First Amendment rights–CIPA does not "penalize" libraries that choose not to install such software, or deny them the right to provide their patrons with unfiltered Internet access. Rather, CIPA simply reflects Congress' decision not to subsidize their doing so. To the extent that libraries wish to offer unfiltered access, they are free to do so without federal assistance. (U.S. v. ALA, 2003, p. 212)

Although this case focused on public libraries, the decision in effect precludes public schools from making a similar argument. For now, CIPA is the law.

**CIPA's implementation.** What does CIPA require of public schools and libraries? Simply put, in order to receive a Universal Service Discount for technology ("E-rate"), public schools and libraries must have an Internet Safety Policy that includes a "technology protection measure"

that filters or blocks visual images that are (1) obscene; (2) child pornography; or (3) "harmful to minors", generally defined as "depictions of nudity and sexual activity that lack artistic, literary, or scientific value" (CIPA, 2001; Jaeger & Yan, 2009, "The legal road to CIPA," para. 1).

CIPA also requires that the Internet Safety policy "address" (1) access by minors to "inappropriate matter" online (as determined by a local agency, such as the school district); (2) the safety and security of minors while using e-mail, chat, or other means of direct communication; (3) unlawful activity; and (4) unauthorized disclosure of personally identifiable information about minors. It is important to note that CIPA does not specifically require filtering technology be used as the solution to address these additional concerns. CIPA merely specifies that these issues be "addressed" in an Internet Safety Policy. Filtering technology is only required to block obscenity, child pornography, and images that are "harmful to minors" as defined by the act.

#### **Impact of Filtering Software in Schools**

Because of CIPA, filtering is a reality in almost all K-12 public school libraries and classrooms. The purpose of and the benefit to using filtering software is that it can help protect children from accessing adult content at school. Properly implemented, it will filter out a good deal of inappropriate content that students may otherwise knowingly or accidentally access. Pre-CIPA studies found that 60% of all Web-site visits were sexual in nature, and that 53% of teens had viewed websites that included pornography or violence. Of those teens, 91% came upon those inappropriate websites unintentionally (Byrd, V., Felker, J., & Duncan, A., 2001). Schools are an important point of access to online content for teens, and thus can be instrumental in protecting teens and children from pornography and violence. "[F]or a growing portion of the online teen population, schools have become an important venue for internet use for a significant number of teens ... More than three in five online teens who use the internet from multiple locations list school as the location where they go online most often" (Lazarinis, 2010, p. 158). As a significant online access point for students, schools have an important role to play in protecting students from accidentally stumbling upon inappropriate content, and filters are one key tool that can assist with this task.

While the benefits of filtering seem clear, there are detrimental effects to filters as well. Many scholars and free speech proponents, including the American Library Association, argue that the use of filtering technology in schools and libraries raises significant concerns. The improper use of filtering technology may infringe on student's First Amendment rights, impede a 21<sup>st</sup> century education, result in a lost opportunity for students to be educated in online

citizenship, create a digital divide, and block sites deemed improper by the designers of the software, rather than educators.

**The evolution of technology in schools.** In analyzing the impact of filters, it is very important to highlight that the landscape has changed significantly since the drive to pass legislation to protect children from online content began. Congress' efforts to legislate online content for children began with CDA in the mid 1990s, and culminated with CIPA, passed in 2001. In 1995, when these efforts began, just 8% of public schools (both elementary and secondary combined) had computers with Internet access for either instructional or administrative purposes (*Digest of Education Statistics*, 2012, Table 108). By 2000 that number had climbed to 77%, and by 2008, the percentage stood at 98% (*Digest of Education Statistics*, 2012, Table 108).

In addition, the ratio of students to computers has dropped by more than half since 2000 (*Digest of Education Statistics*, 2012, Table 108), which suggests that students may have access to computers more frequently. According to a recent study, 59% of teachers reported that their students use computers at least twice per week in school (National Cyber Security Alliance [NCSA], 2011), and 81% said such use occurs at least once a week (NCSA, 2011). The usage remained consistent against all age groups, from kindergarten to high school (NCSA, 2011). Furthermore, 89% said their schools have a dedicated computer lab for student use (NCSA, 2011). It is almost certain that not only Internet access, but Internet usage, has increased significantly at schools over the last decade.

The way technology is used at schools has changed as well, with more technology integrated directly into the classroom. In 2009, 97% of American public school teachers had computers in their classroom, with Internet access available for 93% of those computers. The ratio of students to computers in the classroom was 5.3 to 1 (U.S. Department of Education, 2010, *Teachers' Use*). Teachers reported that they or their students used computers in the classroom during instructional time often (40%) or sometimes (29%) (U.S. Department of Education, 2010, *Teachers' Use*).

That percentage will continue to increase. Teachers want technology in their classrooms. As of 2010, 81% of teachers say that "up-to-date informationbased technology that is well integrated into the classroom is absolutely essential (38%) or very important (43%) in impacting student achievement" (Bill & Melinda Gates Foundation, 2010). A full 95% of teachers agree that technology engages students in learning (Bill & Melinda Gates Foundation, 2010). The U.S. federal government also promotes and supports "learning powered by technology" (National Education Technology Plan, 2010, p. 1). The National Education Technology Plan 2010 "calls for applying the advanced technologies used in our daily personal and professional lives to our entire education system to improve student learning, accelerate and scale up the adoption of effective practices, and use data and information for continuous improvement" (p. 1). The plan envisions, among other things, broadband and wireless coverage to support all campuses nationwide, access devices for every student and educator, and access to open and free electronic educational resources such as digital textbooks, digital libraries, tutoring systems, podcasts, games, and similar educational content.

In Watters' (2012) blog, she puts the evolution of technology at schools into perspective, noting that while technology has changed significantly, CIPA has not:

CIPA was signed in to law in 2001. That's worth highlighting, I think, when we talk about "children's Internet protection" as the Internet and computing were very different a decade ago. For a little perspective: 2001 was the year before Maine's historic one-to-one laptop initiative was underway. It was a year before a young Mark Zuckerberg entered Harvard. It was three years after Sergei Brin and Larry Page founded Google, but three years before the company went public. It was three years before Tim O'Reilly coined the term "Web 2.0." Apple introduced the first iPod in 2001; but it was six more years before the iPhone and nine before the iPad hit the market. Technology and society have changed substantially in the intervening years; CIPA has not. (Watters, 2012)

The National Education Technology Plan 2010 also acknowledges a tension between student safety and connectivity. In a sidebar, it notes that filters required by CIPA not only block access to legitimate learning content and tools, but also that CIPA requirements create a significant technical challenge to accessing school networks through students' personal devices such as cell phones and laptops (National Education Technology Plan, 2010).

**First Amendment implications.** Filtering software undeniably has First Amendment implications. CIPA only requires that filters block visual depictions of child pornography, obscenity, and material harmful to children – but no existing filter can be that precise. Any filter used in a school "will both overblock and under-block" (Chmara, 2010, p. 19); in other words, some inappropriate material will slip through the filter and a significant amount of non-offensive and appropriate content will unintentionally be blocked. Technology
does not exist that can selectively and successfully block out inappropriate materials without also blocking out valuable information (Heins, Cho and Felman, 2006; Meeder, 2005). At the time CIPA was enacted, a report conducted by the Free Expression Policy Project summarized the results of more than 70 studies on the performance of Internet filters. The report revealed substantial over blocking by a wide variety of software filters (Heins, et al., 2006).<sup>1</sup> A subsequent review conducted in 2006 found that "despite improved technology and effectiveness in blocking some pornographic content, filters are still seriously flawed" (Heins, et al., 2006, p. ii). Recent surveys confirm that filters continue to impact students' ability to access the information they seek. According to an October 2, 2012 press release released by the American Library Association (ALA) regarding its survey results on filtering in schools, "student learning is impeded by school and/or district filters ... Fifty-two percent indicated that school filters interfere with student's research when completing keyword searches" (ALA, 2012, para. 4). Student access to appropriate content is most certainly blocked by the use of software filters.

In most cases, sites can be unblocked – however, it isn't easy. In a recent study by the American Association of School Librarians (AASL), 92% of respondents indicated they could request that a site be unblocked, but "68% of the decisions to unblock a site are made at the District level and only 17% of the decisions are made at the building level" (AASL, 2012, Executive Summary, p. 3). It can also take some time to get a site unblocked. Only 27% can have the site unblocked within a few hours – most have to wait much longer (AASL, 2012, Supplemental Report). One in five say it takes more than a week to unblock a site (AASL, 2012, Supplemental Report). In addition, even when a site can be unblocked, the extra step may violate First Amendment rights and certainly interferes with immediate and free access to information. A student may be unwilling to take the extra step to request that a site be unblocked, especially if the subject material is of a more sensitive or personal nature – for example, a homosexual student researching information about his or her sexual orientation. "[T]o request access to [an erroneously blocked site] chills the dissemination of ... speech and is therefore a violation of the First Amendment" (Byrd, Felker and Duncan, 2001, p. 9).

**Impact on 21<sup>st</sup> century learning.** Filtering technology does much more than block images of pornography, obscenity, or images harmful to children as

<sup>&</sup>lt;sup>1</sup> For example, several filters blocked House Majority Leader Richard "Dick" Arney's website upon detecting the word "Dick"; another filter blocked the Declaration of Independence, Shakespeare's complete plays, *Moby Dick*, and *Marijuana: Facts for Teens* (published by the National Institute on Drug Abuse); and a third filter blocked a search for "The Owl and the Pussy Cat" upon detecting the word "pussy".

required by CIPA. A 2010 review of thirty public schools found that "most [schools] set its filter to block more than required by CIPA" (Jansen, 2010, p. 51). What, exactly, are the filters blocking, and why is it important?

Filters in schools are set to block many Web  $2.0^2$  sites. Social media sites, IM/online chatting sites, gaming sites, and video services such as YouTube and SchoolTube are filtered at most schools (AASL, 2012, Supplemental Report). As of 2008, according to a survey of more than 600 participants, 59% responded that their students are not allowed to view or participate in blogs, 50% are denied access to social bookmarking, and another 68% are blocked from some search engines (Bell's article [as cited in Jansen, 2010]). One high school librarian/technology coordinator complains that her district filters "forums" which seem to include "anything with a 'comment' button. That means all blogs, most Web 2.0 sites, and many run of the mill sites that allow users to add comments..." (Willard, 2010, p. 56).

Why should we care? Well, to maintain a competitive edge in the world market, students must develop 21<sup>st</sup> century skills by becoming experts in collaboration, critical thinking, complex problem solving, and multimedia communication (Jansen, 2010; U.S. Department of Education, 2010). The importance of interactive online tools to 21<sup>st</sup> century dominates educational discourse (Jansen, 2010). In order to become productive members of a globally competitive workforce, students need access to the technology that professionals routinely use, such as wikis, blogs, and digital content for research, communication, and collaboration; inquiry and visualization tools for gathering and analyzing data; and graphical and 3D modeling tools for design (Jansen, 2010).

Students are already using Web 2.0 sites as educational tools at home. For example, a full ninety-six percent of 9- to 17-year-old students participate in online social networks and of that group, 59% use social media to talk about educational topics and 50% talk specifically about schoolwork (Ramaswami, 2010). Many social media sites provide access to information not accessible by searching traditional sources. Historical videos on YouTube, podcasts of radio transcripts on iTunes, current topics found only on Wikipedia and not in other encyclopedias, and blogs maintained by authors, journalists, governments, non-profits, and scientific organizations are all accessible only through Web 2.0 sites (Jansen, 2010).

 $<sup>^2</sup>$  The term "Web 2.0" was coined in 2004 and is defined as "a web of multi-sensory communication"; "a matrix of dialogues, not a collection of monologues"; and a "user-centered web" (Maness, 2006, Introduction, para. 1). In other words, Web 2.0 indicates a more interactive, dynamic, and personalized experience where the line between creation and consumption of content is blurred (Maness, 2006, Introduction, para. 1).

National and international educational standards recognize the importance of and promote the use of Web 2.0 tools. The International Society for Technology in Education (ISTE), an international premier membership association for educators, asks teachers to design and develop digital age learning experiences and assessments; model and facilitate use of current and emerging digital tools; teach safe use of digital information and technology; model digital etiquette and responsible social interactions related to the use of technology and information, and participate in global learning communities using digital age communication and collaboration tools (ISTE, 2012). The U.S. Department of Education has developed a "National Education Technology Plan" that calls for "applying the advanced technologies used in our daily personal and professional lives to our entire education system" (U.S. Department of Education, 2010, Introduction) by "leveraging [technology] to provide engaging and powerful learning experiences and content" (U.S. Department of Education, 2010, Executive summary). The plan envisions students using real-world tools such as "wikis, blogs, and digital content for the research, collaboration, and communication....that allow them to grapple with real-world problems" (U.S. Department of Education, 2010, Executive summary).

However, "[d]espite this recognition of the importance of teaching students to use 21<sup>st</sup>-century tools appropriately, school librarians and teachers increasingly report that their schools' Internet filters deny access to these valuable resources" (Jansen, 2010, p. 48). In 2012, "librarians ... reported that filtering discounts the social aspect of learning (42 percent) and filtering hampers continued collaboration outside of face-to-face opportunities (25 percent)" (American Library Association, 2012, press release). The U.S. Department of Education is also concerned, noting in its 2010 National Educational Technology Plan that "ensuring student safety on the Internet is a critical concern, but many filters designed to protect students also block access to legitimate learning content and such tools as blogs, wikis, and social networks that have the potential to support student learning and engagement" (U.S. Department of Education, 2010, "Infrastructure: Access and Enable" section). Web 2.0 sites and tools are crucial for today's educational environment, but filters often deny students and teachers access to these resources.

**Lost opportunity for online education.** Relying on filters may deprive public school librarians and teachers the opportunity to teach students how to be savvy searchers or how to evaluate the accuracy of information. (Adams, 2010). Adams notes that schools have a responsibility to educate children on how to navigate the Web. She states:

[S]chools 'grow' citizens who must develop skills to evaluate information from all types of sources in multiple formats, *including the Web*. Relying solely on filters does not teach young citizens how to be savvy searchers or how to evaluate the accuracy of information ... [F]ilters protect minors only when they are using the Web *in schools and libraries*, not during their Web use at home, in the homes of friends, or on their personal web-enabled cell phones. (Adams, 2010, p. 11)

High levels of filtering make the Internet unusable, and students will go elsewhere to gain online access. In that space, they will more likely be unsupervised and not taught how to navigate the Internet critically, appropriately, and safely. In her 2010 article, Willard likens educating students about online behavior to teaching children to swim. "Without robust access to these technologies in school, trying to prepare students for their future as effective users of online information is like trying to teach children to swim without a swimming pool" (Willard, 2010, p. 53).

Of greater concern is that even when there is an attempt to educate students regarding online behavior, there is currently a notable disconnect among teachers, administrators, and IT specialists regarding both cyber-education requirements and the success of cyber-education programs. In a survey conducted by the National Cyber Security Alliance (NCSA) in 2011, only 33% of teachers believe their district requires cyber-safety curriculum, while 68% of administrators and 64% of IT specialists believe so (NCSA, 2011). Furthermore, 81% of both administrators and IT specialists believe their districts are doing an adequate job of preparing students in cyber-security, cyber-safety and cyberethics, while only 51% of teachers believe so (NCSA, 2011). According to the same study, it appears that teachers receive little to no actual training; the study shows that most teachers (86%) received fewer than 6 hours of cyber-security, cyber-safety and cyber-ethics training in the prior year, with 36% receiving no training whatsoever (NCSA, 2011). However, given the opportunity, most would like to learn. Seventy-six percent of teachers are interested in receiving training in these areas (NCSA, 2011). If students are to be educated in these areas, there will need to be increased communication between administration, teachers, and IT specialists in order for effective education to happen.

**Digital divide.** Depending solely on filters for content management may also create an unequal educational experience, or digital divide, based on income. Students from lower income households may not have online access at home and have to rely mostly or solely on school computers (where content is filtered).

While the digital divide was of greater concern even five years ago, as access to technology increases, the divide has lessened. In 2008, of teens living in households earning less than \$30,000 per year, 56% went online most often from home and 26% did so from school (Arafeh, Lenhart, McGill, Rankin and Smith, 2008). In comparison, in 2008, 87% of teens living in households earning more than \$75,000 per year went online most often from home, and just 11% from school (Arafeh, et al., 2008). However, since 2008, teens appear to have increasingly greater access to online technology even at lower income levels, particularly through cell phones. One 2013 study found that 9 in 10 teens have access to a computer at home and about 3 in 4 teens say they access the Internet on cell phones, tablets, or other mobile devices at least occasionally. (Cortesi, Duggan, Gasser, Lenhart, and Madden, 2013). Although teens that live in lowerincome and lower-education households are somewhat less likely to use the Internet in any capacity, for those that do, they are just as likely and in some cases more likely to use cell phones as a primary point of access to the Internet (Cortesi, et al., 2013).

Despite this increasing access to technology at home across all socioeconomic levels, the digital divide appears to still exist between lower income and higher income students at the same school and across school districts. Increased home access to the Internet through cell phones or shared computers does not necessarily mean easy access to the digital technologies used by educators at school. A recent teacher survey highlights disparities in access to digital tools; more than half (54%) of the respondents say all or almost all of their students have sufficient access to digital tools while in school, but just 18% say the same is true at home (Buchanan, J., Friedrich, L., Heaps, A. & Purcell, K., 2013). In addition, "[t]eachers of the lowest income students are the least likely to say their students have sufficient access to the digital tools they need, both in school and at home" (Buchanan, J., et al., 2013, p. 3). Although the digital divide still exists, it is narrowing as technology becomes cheaper and more prolific. However, students continue to be impacted by their inability to access needed digital tools outside of the school setting.

**Filter set by software company rather than educators.** A final issue raised by filtering software is that a software designer rather than an educator creates the filter. "[B]ecause filtering software companies make the decisions about how the products work, content and collection decisions for electronic resources in schools and public libraries have been taken out of the hands of librarians, teachers, and local communities and placed in the trust of proprietary software products" (Jaeger and Yan, 2009, "Filtering issues" section, para. 1). The software designer does not know curriculum and is not qualified to determine what might be reasonable and necessary for students to access online for a full

educational experience, but by default they, rather than teachers or librarians, are making those decisions. Some software companies even have specific political agendas of which the purchaser may not be aware (Jaeger and Yan, 2009).

#### Solutions

How can school librarians and teachers address these issues? CIPA makes filtering in public schools mandatory. However, CIPA is specific and limited as to what must be filtered. Proponents of free access of information, such as the school librarian, can advocate for measures that meet the requirements of CIPA, increase online access, and still preserve and even improve the safety of students in an online environment.

One possible solution, if budget allows, is to use newer security technology that examines content rather than denying an entire site. New security technologies can filter out inappropriate content more effectively than their predecessors can, enabling the use of social media while still blocking infected or inappropriate sections (Ramaswami, 2010). Older technology would just block the entire site (Ramaswami, 2010). While this is a great first step, school districts may not have the budget to invest in these advanced security tools. However, there are other steps that can be taken to help students access Web. 2.0 sites and still provide protection from inappropriate content.

For example, schools can relax the filter by setting it to block only those sites that the school and stakeholders either identify as "inappropriate matter" or are not ready to support such as Facebook or Instagram (Jansen, 2010). Filters can also be set differently at different levels of education, with the most restrictive at the elementary level and the least restrictive at the high school and staff level (Jansen, 2010). Schools should also give immediate override authority to school librarians, teachers, and staff rather than making them seek permission from the district or a remote technology person. Providing the school librarian with the authority to override will help to shift the role of the school librarian to "information literacy specialist", and will offer "teachable moments" for the librarian to address the assessment of credibility and appropriateness (Willard, 2010).

Although a "looser" filter may allow in more inappropriate content, schools can protect their students in other ways. Physical monitoring by faculty and staff may be an option in some situations (Willard, 2010), and at the younger grades, teachers can preselect and prescreen sites and bookmark them for students, or preselect the databases and search engines for the students (Chapin, 1999). Most importantly, each school should educate its students. They can and should train their teachers and offer courses in Internet ethics, safety, security, and responsible use of social media tools. Schools must have an Acceptable Use

Policy, make sure the students understand it, and enforce the policy by removing Internet privileges from those who don't abide by the policy (Meeder, 2005).

#### Conclusion

Even though filtering software is currently mandatory at public K-12 schools, the reach of CIPA is limited and does not necessarily require blocking Web 2.0 sites. Furthermore, filtering software has proven to be problematic and ineffective in truly protecting student from inappropriate content. Students should still be able to access the information they need to receive a 21<sup>st</sup> century education while remaining largely protected from inappropriate content. This is not an issue that will go away - in fact, the issue will become even more pressing as the impact of technology in our schools and society continues to grow. It is up to school librarians, teachers, and administrators to carefully balance the benefits of filters and the need to protect children from inappropriate online content against the limitations of filtering and the need to provide our students with access and information so that they can be successful in navigating a digital world. Going forward, this will require increased communication between teachers, administrators, IT specialists, and the community regarding desired technology teaching tools, online access requirements for a 21<sup>st</sup> century education, filtering requirements, community standards, and filtering limitations. It will also require an increased focus on alternative tools for protecting students, including education on online ethics, safety, and security.

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# Copyright, Fair Use and the Digital Age in Academic Libraries: A Review of the Literature

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When the New York Times (NYT) added a pay wall to its online site this spring, it made front page news. The debate centered on the right of individuals to freely access the NYT's news articles and columns versus the right of the NYT to profit from and protect its work. The argument was not surprising to anyone versed in U.S. copyright law. The digital age has unleashed a new set of problems stemming from the ease of access to information provided by the internet (Wyatt & Hahn, 2011). The terrain is rough and uncharted; never before have issues of access and protection clashed in such a powerful way. Users of copyrighted material are hard-pressed to stay up to date with the latest regulations and cases. Copyright holders vigorously defend their rights under the copyright law and the penalties for infringement are harsh. The balance between the rights of copyright holders and information users has always been tenuous at best, and, at its worst, is considered to be an "asymmetric distribution of uncertainty" among the parties (Horowitz, 2012, p. 336). The prevalence of internet use has only exacerbated the issue, and misunderstandings of copyright law are common (Wu, Chou, Ke & Wang, 2010).

Academic libraries and librarians are not immune to these issues. Academic libraries are tasked with providing students and faculty access to copyrighted materials, in addition to storing and exhibiting such material. The overall purpose of this literature review is to review the current understanding of copyright law within the context of academic libraries in American universities and colleges. Additionally, this review will describe what issues academic librarians face in complying with copyright law while performing duties such as processing course reserve materials and developing an institutional repository.

#### Discussion

#### **Copyright Law and the Doctrine of Fair Use**

There are reams of literature written about copyright law and the fair use doctrine. This brief overview means to only to provide a general background of the law for the purposes of this literature review.<sup>1</sup> Grounded in the U.S. Constitution, copyright law is a form of protection for original works of authorship, including "literary, dramatic, musical, architectural, cartographic, choreographic, pantomimic, pictorial, graphic, sculptural, and audiovisual productions" (U.S. Copyright Office, 2012, Title 17 of the United States Code). Copyright provides the holder with a "suite of exclusive rights: the right to reproduce, to make derivative works, to distribute, to publicly perform, and to display" (Davis, 2012). Not all works are protected by the copyright law; some may be aged out of the system or may be protected by a license agreement (e.g., a contract between

<sup>&</sup>lt;sup>1</sup> An excellent text on copyright law: Crews, K. (2012). *Copyright law for librarians and educators*. Chicago: American Library Association.

parties or a Creative Commons license) or belong to a class of items that are not copyrightable (e.g., government documents).

Carved out of this right is the fair use doctrine, which permits selective copying and distribution of a work in order to preserve, theoretically speaking, society's access to ideas and innovation (Chang, 2007). The fair use doctrine is a list of four factors that must be weighed to determine whether a use should be deemed fair: (1) the purpose and the character of the use; (2) the nature of the copyrighted work; (3) the amount and substantiality of the portion used in relation to the copyrighted work as a whole; and (4) the effect of the use on the potential market for, or value of, the copyrighted work (US Copyright Office, 2012, 17 U.S.C. §107). The fair use doctrine is heavily informed by case law interpretation (Gould, Lipinski, & Buchanan, 2005; Pressman, 2008).

Renowned Harvard Professor Lawrence Lessig has famously stated that "fair use in America simply means the right to hire a lawyer to defend your right to create" (Horowitz, 2012, p.348). The following criticism of fair use summarizes main issues with the doctrine: "[U]ncertainty is pervasive in the doctrines salient to users of copyrighted works...[u]sers cannot know whether a given use will be adjudicated lawful because the lawfulness of the use turns on answers to nebulous questions, such as whether the use incorporates copyrighted expression or instead just the un-copyrightable idea, whether the use is substantially similar to the copyrighted work, and even if so, whether the use is fair or otherwise justified by laches or copyright misuse" (Horowitz, 2012, p.374). The fair use doctrine is difficult and often litigious terrain.

The fair use doctrine is present within the context of academic libraries. A recent case decided by a district court in Georgia has wide implications for the fair use doctrine on campus. Although the impact of the decision has not yet been studied in published reports, the case holding is worth discussing briefly in this literature review as it may serve as a lead decision on copyright law within the context of academic libraries for many years to come. In Cambridge University Press v. Patton, three publishers sued Georgia State University for fair use violations within its e-reserves policy. The 350-page decision, after an application of the fair use defense to 99 readings, found only 5 cases of copyright infringement. The first and second fair use factors favored GSU every time, suggesting that (1) academic libraries are favored entities because they are nonprofit educational institutions and (2) use is favored when it is applied to scholarly works of non-fiction (Howard, 2012; Smith, The GSU decision - not an easy road for anyone, 2012). The plaintiffs in the case appealed the decision to the 11th Circuit Court of Appeals in September 2012 and the appeal is awaiting decision (Howard, 2013).

## **Copyright Law on Campus**

The sheer volume of materials written about copyright law would seem to excuse a precise understanding of copyright law; it is a subject that is under constant scrutiny by the courts and legislators as it is a subject that deals with large amounts of money. In 2002, the copyright industries' revenue from licensing fees was approximately equal to 12% of the total U.S. gross domestic profit, or, \$1.254 trillion (Chang, 2007). "The internet seems to be the largest library in the world and it is technically like a super photocopier and fax machine in one" (Wu, et al., 2010, p.199) and thus "many of the intellectual property rules and practices that evolved in the world of physical artifacts do not work well in the digital environment" (Smith, Tobia, Howell, Pfeiffer, & Fitts, 2006, p. 59). How, then, do those operating in a non-profit world – academic librarians, faculty, students - understand the precepts of the law and how it is applicable to them. Not well, it seems, as is indicated by the research studies in this area (Gould, et al., 2005; Papp, Matulich, & Walters, 2010; Smith, et al., 2006; Wu, et al., 2010).

Faculty demonstrated a basic understanding of copyright law and the doctrine of fair use and acknowledged a limited knowledge of the issues. Smith (2006) conducted a comparative survey of two academic health science campuses to determine whether an institutional effort to educate faculty regarding copyright issues would increase understanding of the copyright law. The study was not able to conclusively demonstrate that institutional education had an impact on knowledge about copyright law. Some faculty, however, stated that they would be interested in non-mandatory further instruction (Smith, et al., 2006).

Student assumptions about copyright law and fair use are particularly disconcerting. Papp et al. (2010) surveyed students at the University at Tampa who acknowledged familiarity with the University's Fair Use Policy, which, at Students were more familiar with what Papp that time, was nonexistent. described as "traditional" copyright rules, such as those addressing plagiarism and photocopying textbooks and other print materials. When it came to electronic resources, however, students assumed that an item provided by a professor via email or Blackboard was already "cleared." Papp cited to the following phrases to describe common student attitudes: "If I can Google it, it must be public information that anyone can use however they want" and "I pay a lot of tuition here, so nobody should be monitoring or restricting my use of the campus network" (Papp et al., 2010). The research study conducted by Wu et al. (2010), even though conducted with college students in Taiwan, found similar attitudes present within the student population. The study teased out four main areas of concern: (1) digital resources can be shared; (2) downloaded digital resources are legitimately authorized by the university and permissible; (3) all educational use is fair use; and (4) downloading materials is permissible because students are paying tuition (Wu, et al., 2010).

Similar to faculty members, the students were open to further education on copyright law (Papp, et al., 2010; Smith, et al., 2006). Education possibilities included online resources, printed resources and orientation training; additionally, students asked for sites that provided legal alternatives to illegal file sharing (Papp, et al., 2010). It is important to note that neither faculty nor students appear to demonstrate any knowledge of the multitude of licensing agreements in place at the university and how the licenses affected their access to digital information (Papp, et al., 2010; Smith, et al., 2006; Wu, et al., 2010). This is most concerning as licensing agreements seem to be in place for almost every database in an academic library's system.

The same complexities dogging faculty and students do not disappear when one steps into a library. Gould et al. (2005) conducted a study of how members of the American Research Library Association applied copyright policies and examined the nature of the policies in conjunction with the law of fair use. Approximately thirty-six percent (36%) of the libraries imposed a limit on the number of pages that may be reproduced without a copyright holders' permission, but almost one third of those respondents did not know the origin of the rule. Established university committees addressing copyright concerns were rare (only 13 of 78 libraries) and almost half of the libraries reported that they had no representative on the committee (Gould, et al., 2005). Disturbingly, the knowledge base of the academic libraries surveyed seemed to extend no further than that of the faculty and students. Gould et al. (2005) repeatedly stated that the policies were inadequate and that fair use policies must rely on case law as well as the copyright statutes and regulations. It is worth noting that the Association of Research Libraries issued a Code of Best Practices in Fair Use for Academic and Research Libraries in January 2012 (Association of Research Libraries, 2012). Further research may study how this Code of Best Practices impacted academic librarians' knowledge and practices.

#### Academic Libraries and Copyright Law

This section of the review will describe what issues academic librarians face in complying with copyright law while performing duties such as processing course reserve materials, developing an institutional repository, providing educational classes to faculty and students about copyright law, and maintaining digital collections.

**Processing Reserves.** An academic library may serve as the university's copyright center, providing obvious services -such as general copyright law education- but also processing library reserves (such as supplementary print and electronic materials for courses) (Bridgewater, 2008; Quartey, 2007; Wagner, 2008). This process involves compiling faculty members' requests and reviewing the request for compliance with fair use standards (for example, one university

refers to copyright law regulation H.R. 2223 and one refers to university reserve policies). If the staff believes that the request exceeds fair use guidelines, the staff will contact the Copyright Clearance Center (CCC) or the copyright holder (Bridgewater, 2008; Wagner, 2008). The CCC bills itself as "a global rights broker for the world's most sought after materials, including in- and out-of-print books, journals, newspapers, magazines, movies, television shows, images, blogs and ebooks" (Copyright Clearance Center, 2012). The CCC academic license extends to approximately 200 publishers (Fineberg, 2009).

There is a concern, however, that libraries, instead of asserting fair use rights, will default to seeking permission from licensing agreements or a business such as the CCC (Chang, 2007; Fineberg, 2009). Fair use is in danger of being supplanted by "authentication, clickwrap licenses, and pay-per-use" (Chang, 2007, p.182). For example, Fineberg (2009) sampled three licensing contracts, and while none mentioned "course management systems" specifically, the intent of the agreements leans toward granting access to license holders. On first glance, this may appear to be a positive factor as it means a library will be less likely to be cited for infringement when it is acting within the boundaries of a license agreement. A license agreement, however, deprives users of the right to assert the first sale doctrine, which effectively transforms a document from a material to a right (Chang, 2007). Moreover, a license deprives users of anonymity (Chang, 2007). Although licenses are billed as beneficial to copyright users, it appears that a license acts merely as a wolf in sheep's clothing: there is no safety in willingly compromising a user's legal rights under federal copyright law.

Although it is difficult to (legally) bypass a license agreement, creative librarians are already searching for cost-cutting measures that are in compliance with standard copyright law. A recent study has demonstrated that it was more cost effective to order inter-library loan articles that required copyright royalty payments on an individual "pay-per-view" basis (Brown, 2012). The University of Nebraska's Medical Center's McGoogan Library of Medicine realized savings of over \$14,000 and \$18,000 in fiscal years 2009 and 2010 (nearly a 40% decrease in costs each FY) by utilizing the PPV service and not the standard interlibrary loan method (Brown, 2012). Alternatively, it has been argued that within the context of scholarly articles, academic libraries should adopt a "liberal approach to fair use," in which a library first pays for a scholarly article, thus compensating a publisher for vetting and distribution, and retaining ownership of the article under the first sale doctrine (Davis, 2012). After all, Davis (2012) argues, scholars have donated their work to the publisher and are not reaping profits when they distribute fairly purchased articles to students. This would be an interesting theory to test.

**Institutional repositories.** Copyright law also arises in the context of building an institutional repository. An institutional repository ("IR") stores the scholarly record of a university or college; currently, there are approximately 2,000 in place worldwide (Hanlon & Ramirez, 2011).<sup>2</sup> A study conducted at Utah State University examined the feasibility of utilizing subject librarian staff for the purposes of facilitating copyright clearance for works, preparing metadata for access to the works, and uploading the full-text work (Leary, Lundstrom, & Martin, 2012). The use of the librarians was meant to decrease the workload on the faculty while at the same time encouraging the faculty to contribute to the institutional repository. The pilot program was a success (Leary, et al., 2012). Generally, librarians and library staff are utilized to address copyright clearance issues and are tasked with contacting publishers for permission to publish in an IR (Hanlon, et al., 2011).

The libraries discussed in the Bridgewater (2008), Leary (2012) and Wagner (2008) case studies reported increased workload but general overall satisfaction with the new process as it increased knowledge about copyright and related issues (such as the impact of "permission fees" on departmental budgets and increased knowledge of what is being taught in classrooms). The process also assisted in developing bridges between the faculty and the librarians (Bridgewater, 2008; Leary, 2012; Wagner, 2008). Copyright clearance procedures, however, are still in the "formative" stage. The Hanlon et al. (2011) study, which reviewed international and statewide practices, suggests that the library profession consider "developing IR copyright clearance 'best practices' in order to supplement and augment existing copyright directories" and thus increase availability to open access scholarship and author engagement in the process.

**Copyright law education.** Libraries must play an increased role in copyright law education; this is clear (Graveline, 2011; Quartey, 2007; Wyatt et al., 2011). Case studies from universities point to the need to educate the library staff; promote 'brown bag' sessions in the library discussing copyright law; and arranging a copyright law workshop for faculty (Graveline, 2011). A case study from Brigham Young University, a school acknowledged to be ahead of the curve with regard to copyright law education (Papp, 2010), demonstrates the amount of preparation and planning required to implement a successful program (Quartey, 2007). University administration buy-in was sought, and then the program was intensely marketed (targeted emails, presentations, handouts, pens with slogan,

<sup>&</sup>lt;sup>2</sup> According to OpenDOAR (Directory of Open Access Repositories), there are approximately 396 IRs in the United States as of November 2012. http://www.opendoar.org/find.php

"Get a grip on Copyright!") and the population was educated (online tutorials) (Quartey, 2007). Student populations may be more amenable to learning about copyright law through Web 2.0 social technologies, such as YouTube (podcasts) and even Facebook (reference services) (Cassidy, Britsch, Griffin, Manolovitz, Shen, & Turney, 2011).

Digital library collections. The research on this topic is sparse at this time, which may be due to the relative "newness" of digital libraries. Digital library collections are groups of materials organized and selected based on a common theme, which are then compiled into an online database or webpage. It is generally a static collection of resources, more similar to books in the archives than a newsletter on a webpage. Schlosser (2009) surveyed over 700 digital collections to determine if a copyright statement was present, and if so, what the copyright statement stated. The study argued that academic libraries, as educational institutions and stewards of public access to knowledge, have a duty educate users of digital collections regarding copyright issues. to Disappointingly, the results were similar to the results that researchers discovered when researching students, faculty members and academic librarians' knowledge of copyright law (Smith, et al., 2006; Papp, et al., 2010; Wu, et al., 2010, Gould, et al., 2006). The statements were incomplete, vague or incorrect (e.g. asserting copyright over digital reproductions of a two-dimensional item) (Schlosser, 2009). These findings are not entirely surprising, considering the high likelihood that individuals building a digital collection are the same individuals employed by academic libraries, which the previously discussed studies found did not have a satisfactory grip on the principles of copyright law.

#### Conclusion

This literature review provided an overview of the current understanding of copyright law within the context of academic libraries in American universities and colleges. The literature discussed in this review emphasized the need for further education about copyright law among all members of the campus community, and, in particular, academic librarians. Academic librarians are stewards of information on campus; the library is the main access point through which information flows. Although it is impractical to expect academic librarians to keep current with the massive amount of literature discussing copyright law, surely more than a rudimentary knowledge is needed. The literature suggests that the role of the academic librarian is central to the functioning of a university/college library. As such, an academic librarian must be educated about copyright law standards – not only to protect the library and the university, but to protect the faculty and students and staff . . . and even protect the much-maligned copyright holders. The development of educational programs centered on copyright law within the context of academic libraries will be crucial to the understanding of the law among librarians.

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# Digital vs. Print: Reading Comprehension and the Future of the Book

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Recent sales data indicate that the meteoric rise of the digital book, and a consequent fall in purchases of traditional books, may have subsided. It seems likely that, at least in the short term, digital book sales will settle somewhere between 10% and 20% of the total market (Milliot, 2014). Cultural forecasters are again considering the possibility that print books will survive into the future, along with libraries as the ubiquitous brick-and-mortar institutions that lend books, in addition providing all the technology-based services that have come to define them in recent years. In an effort to determine what books and libraries might look like in the future, this article compiles current research on how reading comprehension is impacted by each of the three current reading platforms: print books, e-books, and books downloaded onto smartphones or computers. Although future advances in digital technologies will continue to enhance the convenience and ease with which e-books and computer texts are read, comprehension still seems to be the best indicator of the relative presence of each reading platform in years to come. If, because of superior optics, cognitive availability, or metacognitive suitability, one platform seems superior to the others, it may be assumed that it would dominate the book market in the future. If, as seems more likely, each platform is best suited for the comprehension requirements of different readers in different situations, the question of the future of books and libraries will remain complicated, yet still be more predictable. What seems definite at the outset is that, before making major investments in digital books and ereaders, librarians should be well aware of the strengths and limitations of the electronic platforms for the reading brain, regardless of short-term trends in the retail book market.

#### Libraries and the Evolution of Book Lending

In recent years, improvements in e-reader technology and the convenience of smartphone reading have made digital books a mainstream phenomenon. According to the Pew Research Center, 28% of Americans read at least one e-book in 2013, up from 23% in 2012 and 16% in 2011 (Desilver, 2014; Rainie and Duggan, 2012). Yet this rise in demand for digital books has been largely unmet by libraries, who have had only limited success negotiating e-book purchases with publishing houses. Not until the summer of 2013 did all five of the major United States publishers agree to release at least some of their digital editions to libraries, and then at prices several times higher than the equivalent print editions. Currently, libraries most often purchase e-books under licenses that expire after a certain amount of time or a certain number of loans, limit or prohibit downloading and printing, or prevent a title from being loaned to different users simultaneously (Besen and Kirby, 2014). In part as a result of such restrictive licenses, only about 5% of books borrowed from public libraries are digital, according to the most recent data available (Rainie and Duggan, 2012).

Publishers' reluctance to make e-books available to libraries is understandable; it has long been assumed that readers who could access electronic editions through libraries would have little reason to purchase their own electronic or print editions. Yet as publishers' recent sales data has demonstrated, the distribution of e-books through libraries can actually enhance retail sales, especially for books by newer authors who might be "discovered" through free downloads at the library. For this reason, it is expected that publishers may begin to offer lending institutions greater access to digital books, at prices more comparable to print editions (Enis, 2014).

The improving economics of e-book lending of course presents libraries with an opportunity to keep pace with an increasingly technology-driven culture, to provide patrons all-hours access to even more reading materials through their online accounts. Yet as publicly funded institutions bound to promote literacy and learning, libraries have goals beyond more convenient book borrowing, and are guided by a mission more nuanced than simply staying relevant in the information age. The decision to purchase a digital or print edition should be made with an understanding of the suitability of each platform for the comprehension needs of the likely reader, and whether a particular book will be read for entertainment or edification. To facilitate such decision-making, this paper compiles current research on the advantages of reading from printed books, e-readers, and computer displays from the perspectives of the optical issues, cognitive needs, and metacognitive habits of different readers. More than cost and convenience, these are the factors that should be considered when deciding between digital and print formats.

#### **Optical Issues: LCDs, E-Paper, and Print**

The visual focus required when reading, whether it is done on paper, a reader, or a computer screen, necessitates a reduction in the frequency of eye blinks. Reduced blinking causes an increase in the rate of evaporation of tears on the eyes, a condition commonly referred to as "dry eye," and the possibility of attendant fatigue, headache, blurred vision, and light sensitivity. It has been experimentally demonstrated that ocular discomfort and perceptual difficulty, regardless of the reading platform, can compromise one's ability to learn from a text, a phenomenon that becomes more pronounced as the duration of a reading session is lengthened and the difficulty of the text is increased (Conlon & Sanders, 2011). When the optical ill effects of reading on paper and computer screens are compared, the digital text consistently rates far worse, though the transition from cathode ray tube (CRT) terminals to liquid crystal displays (LCDs) has somewhat improved the optics of computer reading (Cf. Wästlund et al., 2005 and Benedetto et al., 2013).

While it is possible that future improvements in screen technology could bring the incidents of dry eye when reading on a computer closer to those of reading on paper, a recent investigation by optometrist Mark Rosenfield (2011) demonstrates that this is unlikely, for dry eye is caused not only by the illuminated display, but also by the angle at which computer text is normally read. Rosenfield explains that the more upright angle of a computer screen results in greater exposure of the cornea and only partial eye blinks. With printed books, however, which are read at a lower angle, a more closed eye position and complete eye blinks are maintained (Rosenfield, 2011). Given that the main advantage to reading on a computer is the ability to multitask with a keyboard, the upright angle of the screen seems inherent to the platform. To the extent that the visual discomfort caused by dry eye impacts reading comprehension, printed books will continue to be superior to computer screens, especially when one is trying to read longer, more challenging texts.

From the standpoint of visual perception, e-books present a greater challenge to the dominance of print. The latest generation of e-readers uses an e-paper technology (also known as "e-ink," from the proprietary brand E Ink) that mimics the appearance of print on paper; instead of the backlit display of LCDs, e-paper displays reflect light just as does the printed page of a book. In an experiment comparing the impact on visual perception of reading for more than an hour from printed paper, e-paper, and an LCD reader, cognitive ergonomics researcher Simone Benedetto (2013) confirmed that e-paper is the optical equivalent of print on paper. Test subjects blinked at the same rate while reading from e-paper and print (.6 blinks per second), and blinked considerably less often when reading from the LCD (about .4 blinks per second). Benedetto also measured changes in visual alertness by administering a critical flicker fusion (CFF) test before and after subjects' reading sessions. The results indicated a decrease in visual alertness that was equivalent for e-paper and printed paper, and a significantly greater drop in visual alertness for the LCD (Benedetto, 2013; the CFF test administered by Rosenfield showed an even more pronounced decrease in alertness for readers of LCDs [Rosenfield, 2011]). Not surprisingly, test subjects also reported symptoms of dry-eye induced visual fatigue after reading from the LCD for an hour, but reported no such symptoms after reading from the e-paper and print platforms (Benedetto, 2013, p. 5). Benedetto's experiment confirms manufacturers' claims of e-paper equivalence to printed paper.

Another researcher, optometrist Paul Harris, has conducted similar investigations and now believes that e-paper is potentially superior to printed paper in terms of optics, due to the customizable nature of the platform. Harris has demonstrated that subjects actually show improved reading comprehension when point size and line spacing are increased (cited in Withers, 2013). Researcher in applied psychology Elizabeth Conlon has also attributed readers' visual discomfort to the repetitive striped pattern of small, single-spaced lines of text, providing further evidence that the potentially superior optics of e-readers might actually enhance comprehension (Conlon & Sanders, 2011).

Optical evidence for the superior readability of e-books and printed books over computer screens is not, however, unchallenged. A study led by linguist Franziska Kretzschmar (2013) compared the experiences of younger and older readers across all three platforms. The results of these experiments at first seem to oppose previous research. Using electroencephalogram (EEG) and eye tracking data to measure test subjects' cognitive effort while reading, in addition to administering reading comprehension tests, Kretzschmar found that older adults actually read with the greatest ease and understanding from LCDs, probably because of that platform's high contrast backlit display. Among younger adults, no significant difference in cognitive effort or comprehension was found when reading from print, e-paper, and LCDs. While Kretzschmar's study could be dismissed as an inevitable experimental outlier, a closer look at her procedure reveals that her conclusions are actually not incompatible with those of other researchers. For example, the texts used in Kretzschmar's experiments were comparatively short, averaging 222 words, and comprehension questions were trueor-false (Kretzschmar et al., p. 3). Benedetto's texts, by contrast, averaged over 16,000 words, requiring more than an hour of sustained reading to complete, and his comprehension questions were multiple choice (Benedetto, 2013, p. 3). Kretzschmar also presented her texts in a larger point size with thirteen lines of text on each page, compared to eighteen lines of text per page in Benedetto's procedure. Shorter texts, a lower standard for comprehension, and improved optical conditions together made Kretzschmar come to a conclusion different from that of other researchers.

When considered alongside the findings of Rosenfield (2011), Benedetto (2013), Harris (2013), and Conlon (2011), Kretzschmar's research further refines our understanding of the unique functionalities of print, e-paper, and LCDs: For shorter reading sessions that require less cognitive effort, the optical qualities of an LCD computer screen are sufficient, which may explain why many people have abandoned print newspapers and magazines in favor of the greater convenience of on-line editions. However, the non-illuminated displays of e-paper and print books are better suited to reading longer, more challenging texts. All readers might reduce eyestrain by increasing point size and line spacing on e-readers. Finally, older adults will likely be able to follow the high-contrast text of LCDs with greater ease and enhanced comprehension.

#### **Cognition: Digital vs. Print**

Although researchers studying the effectiveness of different reading platforms are primarily concerned with objective measures of optical challenge and reading comprehension, both Benedetto (2013) and Kretzschmar (2013) do also consider participants' subjective preferences, and here the results are consistent. Both studies show an overwhelming preference for print books over both digital media platforms. Even older adults, who in Kretzschmar's experiment read from LCDs with the greatest ease and comprehension, identified print books as the most "pleasant" to read, by a factor of nearly three to one (Kretzschmar et al., fig. 2). Likewise, the current generation of young people, the digital natives who should have no cultural bias for the printed word, report in survey after survey that they prefer learning from books to learning from screens; many report that if they do discover an important text on the internet they are likely to print it out before attempting in-depth reading (Jabr, 2013, "Navigating," para. 10). It must be concluded that the general preference for print- over screen-reading goes beyond optical issues and force of habit to cognition, or the way texts are processed and stored in our minds.

Essential to understanding how uniquely well-suited printed texts are for the reading brain is the fact that there are no genetic or biological structures dedicated solely to reading. Instead, we read by connecting neural structures originally developed for vision, object recognition, and spoken language to the processes of letter and word recognition and the short-term memory storage necessary for sustained thought. The same cognitive structures that evolved for navigation and communication in the physical world have been adapted to accomplish the learned behavior of reading (Wolf, 2007). To the reading brain, therefore, letters and words exist as physical objects, and the text they compose forms a kind of thought-landscape where meaning associated with words occupies a specific location. This is why, when people are trying to locate a particular piece of information they have read, they often can remember where in a printed book they came across it—high or low on a page, verso or recto, and at a certain depth in the page stack. Paging back through a text to find a particular passage remembered by its location is the cognitive equivalent of retracing one's steps through a forest, searching for familiar landmarks along the way (Jabr, 2013, "Navigating," para. 3; Mangen, 2012, p.

65). Obviously, when trying to study from a virtual text, the reader is deprived of this ability to associate thoughts with real-world locations.

To provide experimental support for the idea that the physicality of a text is important for comprehension, psychologist Anne Mangen (2013) devised a reading test that would require subjects to return to a previously read, four-page text to answer comprehension questions. Half of the subjects read from an unpaginated pdf file, while the other half read from printed paper. The subjects using the paper condition did perform significantly better on the comprehension test. Based on this result and other researchers' findings, Mangen sees a relationship between reading comprehension and one's ability to mentally reconstruct a text: ". . . the fixity of text printed on paper supports a reader's construction of the spatial representation of the text by providing unequivocal and fixed spatial cues for text memory and recall" (Mangen, 2013, p. 66). Mangen did not include an e-reader in her study. While it does seem that the page-at-a-time presentation of an ereader, coupled with the action of tapping to turn pages, would provide the reader with some ability to locate ideas in two dimensions, the sense of the number of pages turned and the thickness of the book would remain abstract. Whether it is read on an LCD or an e-reader, it does seem that the very intangibility of screen text inhibits the cognitive process.

Mangen's study (2013) demonstrated the difficulty that readers of an unpaginated pdf file encountered when trying to relocate information previously read. Some might counter, however, that the static pdf file used in her experiment was not taking advantage of a unique capability of virtual text: hyperlinks. By enabling a reader to selectively click on terms that require further clarification, or on digressions of special interest, it was once thought that a reader of hyperlinked text would be empowered to take control of his or her own edification, to read quickly past familiar information and focus on what is new. Contrary to this hope, countless studies from the 1990s to the present have shown that readers of linear text actually understand better, learn more, and remember more of what they have read than readers of hyperlinked text. A consistent explanation for the failure of hyperlinked text as a learning tool is that simply deciding whether or not to click on a link increases a reader's cognitive load. Each time a link is encountered, it has to be momentarily evaluated. To the reading brain, each link represents a problem-solving task that is extraneous to the actual content of a text. If a link is followed, the reader's focus is changed in a way that might be difficult to connect with previously encountered ideas (Carr, 2011, pp. 126 - 28). To return to the analogy of the text as a forest of ideas along a path, science writer Ferris Jabr likens clicking on hyperlinks to repeatedly "teleporting" off the path: "Instead of hiking the trail yourself, the trees, rocks, and moss move past you in flashes with no trace of what came before and no way to see what lies ahead" (Jabr, 2013, "Navigating," para. 5).

Even if a reader consciously decides not to follow links, the distraction of seeing colored, clickable text is enough to inhibit comprehension. According to neuroscientist Joel Pynte, who has investigated the effects of typographical errors on eye movements, any unfamiliar text in the parafoveal region will draw the eye and interrupt the moment-to-moment processing of information during saccades, thereby compromising speed and concentration (Pynte, 2004, p. 201. See also Zhang, 2012, p. 6, for a discussion of how interrupting saccadic eye movements can prevent a reader from choosing the next most salient lexical fixation point).

The cognitive distraction posed by clickable text can no doubt be confirmed by anyone who has spent time digressing through a string of Wikipedia articles. Slightly more controversial, however, is the idea that, when reading for understanding as opposed to entertainment, the screen itself might interfere with comprehension. In a 2005 study by psychologists Jan Noyes and Kate Garland, it was found that, while test subjects who read a digital (CRT) introductory economics text were able to perform as well on a comprehension test as subjects who read the same text in print form, their methods of cognitive processing did differ. In essence, the readers of the printed text understood the material, while the readers of the digital text only remembered the material. The cognitive difference between understanding and remembering is significant, as once a concept is understood it becomes a long-term memory no longer tied to its original source—it is known. Without understanding, a newly learned concept is nothing more than a short-term memory that may not be available as a foundation for more difficult concepts to be taught later on (Noyes and Garland, 2005, as cited in Jabr, 2013, "Exhaustive," para. 2).

Noyes and Garland's experiment (2005) might account for the experience of longtime astronomy professor David Bruning, who believes that today's digital native students no longer have the patience necessary to truly engage with and understand difficult reading material:

... my students appear to be passive recipients of the written word; they memorize sentences as if they were oracle bones. They do not participate in the give-and-take between author and reader that I have come to expect. Instead of wishing to be challenged by ideas strewn through the pages, they wish to be assured that the manipulation of the electronic file is tantamount to education. (Bruning, 2012, p. 11)

The superficial approach to reading exhibited by Professor Bruning's students may be a consequence of the computer platform itself. Given that students use their computers for recreational reading, e-mailing, social networking, Skyping, shopping, sharing music, and gaming, it seems unlikely that they would easily sit before these devices receptive to concentrated study. It requires patience to learn from a text, patience to follow an author's logic through unfamiliar territory, and patience to constantly review new concepts to confirm one's understanding. A computer might not be conducive to such effortful deliberation. In the words of cognitive researcher Rakefet Ackerman, "The common perception of screen presentation as an information source intended for shallow messages may reduce the mobilization of cognitive resources that is needed for effective self regulation" (Ackerman and Goldsmith, 2011, "Metacognitive Learning," para. 7).

Noyes and Garland (2005), Ackerman and Goldsmith (2011), and Professor Bruning have all concluded that computer screens are not conducive to reading longer academic texts. It might be expected that the e-reader platform would perform better, combining as it does the convenience of a screen with the dedicated text presentation of a book. As previously mentioned, however, this was not the case in the two experiments that rated readers' subjective experiences of paper, e-paper, and LCD texts (Benedetto et al., 2013; and Kretzschmar et al., 2012).

The lack of enthusiasm on the part of many for e-books may be explained by what two researchers in information management are referring to as the "haptic dissonance" of e-readers. Jin Gerlach and Peter Buxmann define haptic dissonance as the "perceived unpleasantness" of an object that does not correspond to one's previous sense-experiences of the object (Gerlach and Buxmann, 2011, "Defining Haptic Dissonance," para. 2). In the case of e-books, this would translate to an expectation that a book should have bound, turnable, paper pages; a heft and thickness that reflects its length; a cover and binding with a non-technical feel that reflect its quality and durability; and a condition of use that reflects its age. Indeed, these were among the many physical qualities that a group of avid readers reportedly missed in their experience of the e-reader platform. Other comments made by the e-reader test group were that the e-reader felt "artificial," "disturbing," and "distant" (Gerlach and Buxmann, Tables 2, 3, and 6). Because the real-world qualities of a book were missing from the e-reader, 83% of the participants in the researchers' survey group strongly preferred paper books e-readers (Gerlach and Buxman, "Conceptualizing Haptic Dissonance," para. 5).

The sentiments of Gerlach and Buxman's test group are echoed by book critic David L. Ulin, who writes that, although he is an enthusiastic user of the latest digital technologies, when it comes to reading texts, he finds e-books "inhospitable":

I think in pages, not in screens; I like the idea of the book as object, of the book as artifact, of reading as a three-dimensional, tactile experience, in which the way a text looks or feels or even smells has an influence of how, or whether, I engage. (Ulin, 2010, p. 121)

Given the undeniable convenience of being able to carry a library of reading in a lightweight tablet, and the optical superiority of e-paper technology, the concept of haptic dissonance seems to be the best explanation for why retail e-book sales have not completely outpaced print book sales. In her research for Microsoft, Abigail Sellen has found that, when people discover an e-book they really enjoy, they tend to also buy the print version (Jabr, 2013, "Attitude Adjustments," para. 3). When it comes to readers' favorites, having access to virtual text does not, it turns out, bring the same pleasure as holding, reading, turning the pages of, and actually owning the printed book.

## **Metacognition: Digital vs. Print**

Despite decades of work by computer and e-reader engineers and designers to improve the optics, display, and ease of navigation of virtual texts, readers still have a general preference for the print presentation, especially when it comes to longer, more challenging material. Some researchers are beginning to think that this long-standing preference for print might be more attitudinally based than objective, and reflect readers' inability to actively engage with digital texts from which they are trying to learn. Given the previously discussed importance of the physicality of a text for comprehension, and the fact that feeling "distant" from a text is a commonly heard criticism of e-books, this metacognitive approach to research does seem promising.

Rakefet Ackerman is a leading researcher in the metacognitive strategies people employ when reading, and his investigations do reveal significant differences between the print and digital platforms. In a 2010 experiment, Ackerman tested college students' ability to actively study and learn from five different challenging expository texts of about 1,200 words each, on both digital and paper platforms. Both groups of students

were encouraged to underline, highlight, and take marginal notes, the digital group using familiar word processing tools, and the paper group writing with pencils and highlighters on the printed texts. When the students in the two test conditions were limited in the amount of time they could spend with their texts, on-screen performance was nearly identical to on-paper performance; comprehension questions were answered with about 62% accuracy. However, when the experiment was repeated with a new selection expository texts, and the students were allowed as much time as they thought necessary to interact with and come to an understanding of the material, the group using pens on paper earned test scores about 10 points higher than their virtual-learning counterparts. While the enhanced learning of the paper-and-pens condition may not in itself be surprising, a second finding does shed new light on the ability of readers of real-world texts to self-regulate their cognitive process: In both experiments, the on-paper learners were able to predict their performance on the comprehension test with reasonable accuracy (to within 4 percentage points on average), while the on-screen learners greatly overestimated how well they knew the material (by 10 percentage points on average; all statistics in Ackerman & Goldsmith, 2011, fig. 2). Not only was it more difficult for the virtual learners to understand the material put before them, they also had a harder time judging their degree of understanding. On some level, however, it seems that studentreaders often do question their ability to learn from digital texts, and it is this "metametacognitive judgement" (Ackerman & Goldsmith, 2011, "Metacognitive Learning Regulation," para. 6) that leads them to print out on-screen materials when deeper study and literal pen-to-paper interaction with readings are required (Ackerman & Goldsmith, 2011, para. 2).

Two other investigations into the use and effectiveness of metacognitive strategies are worth considering, as they indicate that these study aids might not be necessary when a text, whether printed or virtual, is less challenging to the reader. In a 2003 experiment led by College Board researcher Jennifer Korbin, it was found that, when on-screen and on-paper GRE sample tests were administered to college students, the option to underline and take notes had no measurable effect on students' scores. It was observed that students using the paper condition did underline important information more frequently, possibly indicating a greater comfort with actual as opposed to virtual interaction with a text. It seems likely, however, that this metacognitive strategy was simply not necessary, given that the reading passage under consideration was grade level appropriate and only 55 lines long (Korbrin & Young, 2003).

A second investigation, undertaken in 2013 by psychologist Sara J. Margolin, compared student comprehension test scores on 500-word narrative and expository texts that were read on paper, on e-paper readers, and on LCD computers. After comprehension tests were completed, subjects self-reported the metacognitive strategies that they had employed while reading. In terms of students' test scores, the most significant finding is that they performed the worst on the test for the expository passage read on the e-reader platform, by four points on a hundred-point scale. While this performance difference may be slight, it is significant because the greatest difference in metacognitive strategy was also found among the users of e-readers, in their reluctance to review previously read passages by virtually turning back pages. It seems that the perceived unwieldiness of screen-tapping to turn pages did negatively impact

comprehension of expository texts on the e-reader platform (Margolin et al., 2013, Table 2).

Since monitoring one's understanding while reading, reviewing previously read material if necessary, underlining, and taking marginal notes are so vital to the comprehension of more challenging texts, it is important for students and educators to know how applicable these metacognitive strategies are to virtual texts. As the abovementioned studies indicate, learning on paper with pen in hand is more effective to the extent that a text presents a cognitive challenge because of its length or difficulty. Recent experiments by psychologists Pam A. Mueller and Daniel M. Oppenheimer (2014) confirm that taking notes in cursive facilitates comprehension better than typing notes on a keyboard, possibly because the greater speed of typing leads to verbatim notes, while note taking in cursive tends to be a synthesis of content in a reader's own words. The process of rephrasing information leads to better understanding and longer-term memory storage (Mueller & Oppenheimer cited in Konnikova, 2014). According to cognitive neuroscientist Naomi Wolf, the physical act of writing facilitates abstract thinking and enables people to communicate ideas with greater precision (Wolf, 2007, pp. 65-66). Given the demonstrated physicality of reading, it seems likely that typing on a keyboard is, to the writing brain, the cognitive equivalent of reading virtual text, and therefore a more indirect and inferior way of achieving understanding.

#### Conclusion

As this article demonstrates, print books are still the best suited to the optical, cognitive, and metacognitive requirements of the reading brain. While e-paper technology has been shown to be the optical equivalent of print on paper, e-readers still are lacking in the physicality that has been shown to be so important for comprehension. E-readers also lack the haptic qualities that readers enjoy about books, and seem only willing to give up only when convenience and portability are at a premium. In terms of metacognition, e-readers provide limited opportunities for text interaction, while virtual page turning has been demonstrated to discourage review of previously read material. Computer-read texts have all the limitations of e-readers without the superior optics of e-paper, and the added cognitive disadvantage of distractions from multitasking. Hyperlinks, once thought to streamline the learning process, have instead proven to interrupt the seamlessness of the reading process from perception to thought processing, and this is when they are passed over. If links are actually followed, the lack of textual linearity is sure to lead to confusion. When learning from a text is the objective of reading, printed books will remain the preferred format.

Now that the major American publishing houses are beginning to see the value in making at least their newer titles available to libraries as e-books, price and availability should soon no longer be limiting factors for lending institutions wishing to expand their digital holdings. Yet libraries are not simply intermediaries between publishers and the reading public, and collection development is not simply a matter of economics. Librarians in charge of purchasing and long-range planning will best serve their patrons by basing their decisions on the findings of researchers studying the physiological and cognitive needs of readers, and their metacognitive habits. In terms of convenience, patrons would undoubtedly benefit from a library's partial conversion to virtual texts, and

space made available by a reduction in physical books could be used for public access computers and community gathering spaces. But libraries that exist in the ether alone will not advance the educational needs of society. Given that the most recent research brings into question the efficacy of on-screen learning, librarians have a responsibility to ensure continued public access to the format best adapted to human cognition, the printed book.

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