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Digital Literacy and Public Policy through the Library Lens

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Challenges and Opportunities

Libraries in Maine and elsewhere face challenges ranging from digital literacy and first amendment rights to governance, funding, and potential disasters. There are also exciting new opportunities related to new technologies and the digital “revolution.” Two articles provide insights on some of the issues around digital and information literacy and what kinds of policies and programs are needed to address deficiencies: Marijke Visser looks at digital literacy and public policy from the library perspective, while Debe Averill and Nancy Lewis consider digital and information literacy of high school and college students. Elizabeth Reisz examines critical issues facing K–12 school libraries at a time of decreasing budgets but increasing recognition of the need for libraries and the skills librarians bring to 21st century education. Melora Norman reviews the history and challenges faced by libraries in dealing with citizen first amendment rights to freedom of speech, freedom to receive information, and privacy. Barbara McDade’s article looks at the varied ways Maine public libraries are governed and funded, and the sustainability challenges they face. Joyce Rumery and Tom Abbott in their interview with Linda Silka describe their experiences when they helped libraries devastated by Hurricane Katrina in New Orleans, and how Maine libraries might prepare for disasters. Two articles on opportunities are featured: Clem Guthro describes the national, collaborative effort to establish the “Digital Public Library of America;” Joyce Rumery discusses the opportunities presented by participation in the “Digital Commons,” a national online service (institutional repository) that allows institutions to highlight the work of faculty and students and to provide a medium for managing and preserving items such as materials from special collections.
Digital Literacy and Public Policy through the Library Lens

By Marijke Visser

WHY DIGITAL LITERACY, WHY LIBRARIES?

Virtually every aspect of our lives now has a digital dimension. Our first interaction with an employer is often online; our education may occur online; we may collaborate online with colleagues in different countries; and we often take care of personal business or keep in touch with family and friends online. It is essential that everyone has the skills necessary to be part of this digital reality. In the last several years, national policymakers have begun linking policy goals with the assumption that the workforce will be prepared with 21st century skills. At the same time, policymakers realize a significant portion of the population does not have these skills and that this an issue that needs to be addressed. Therefore they are drafting policies that focus on improving digital literacy.

Twenty-first century digital literacy skills are the keystone to educational achievement, economic development, and workforce readiness. More than 80 percent of Fortune 500 companies post their job openings online only and require online applications. Fifty percent of today’s jobs require some technology skills and this percentage is expected to grow to 77 percent in the next decade. Additionally, civic and political participation and use of government services increasingly require proficiency with the online world. For example, individuals who use social media for such activity are 96 percent more likely to participate in offline civic activities and 67 percent more likely to contact public officials (Rainie 2011). As government services and information migrate online, the ability to successfully navigate often complex web sites and online systems determines if a person will be able to apply for government assistance, schedule a meeting with immigration officials, or download tax forms.

In Maine, unemployment benefits were recently made available online through its unemployment web site. The web site encourages people to file online, and for those individuals who do not have access to a computer at home, the web site steers them to a career center or a local library. This is true nationwide for a growing number of government services and transactions.

In today’s world, remaining offline is not a viable option. When one-third of the population does not have a home broadband connection and 22 percent of these individuals say they lack skills to use a computer or the Internet, a significant portion of the population is in danger of being cut out of the opportunities enabled by broadband. Those with limited access to technologies or limited digital literacy skills are at a social and economic disadvantage that is an immediate public policy concern.

America’s libraries have a proud history in promoting literacy along with the expertise to support digital literacy efforts nationwide. Libraries serve individuals of all ages, income levels, and ethnicities. They are the quintessential community information hub. Librarians work in collaboration with educators across the preschool-to-higher-education continuum and in the public realm in wide-ranging and significant ways to provide digital literacy instruction and support in local communities. Libraries also make strong partners with other community-based organizations, local government agencies, and small businesses to help sustain and advance community interests and goals.

Local libraries are engaged in a variety of digital literacy programs and training, often in collaboration with these community partners. Libraries report an increase in demand for training and are increasing the number of training opportunities related to high-demand topics such as job-seeking and career-related activities, online investment information, and training in the use of social networking tools. These programs, whether formal classes or one-on-one help, are in high
CHALLENGES AND OPPORTUNITIES: Digital Literacy and Public Policy

DIGITAL DIVIDE/DIGITAL INCLUSION

From the perspective of the highly connected, adding digital components to everyday tasks such as moving the job application process online can seem easy and efficient. Yet, for the more than one-third of the U.S. population without regular Internet access or fundamental digital literacy skills this is often an overwhelming challenge. In fact, lack of digital literacy skills is often identified as the main barrier to adopting broadband service at home (Horrigan 2010).

Not surprisingly, the percentage of individuals without a home connection is highest for populations living in traditionally underserved urban and rural communities. These individuals may be further challenged with lower incomes, less formal education, and other barriers to accessing digital technologies. “Digital Differences,” a 2012 report from the Pew Internet & American Life Project, explains that, “Senior citizens, those who prefer to take our surveys in Spanish rather than English, adults with less than a high school education, and those living in households earning less than $30,000 per year are the least likely adults to have Internet access” (Zickuhr and Smith 2012: 2). Furthermore, of adults living with disabilities 54 percent (compared to 81 percent of adults not living with disabilities) report being online (Zickuhr and Smith 2012).

NATIONAL INITIATIVES

The John S. and James L. Knight Foundation took an early interest in digital and media literacy, viewing the issue through the unique lens of ensuring communities have access to a variety of information sources. In 2009, the Knight Commission on the Information Needs of Communities in a Democracy made policy recommendations that included integrating digital and media literacy for education at all levels and urging funding and support for public libraries as centers of digital and media training (Knight Commission 2009). The foundation has since made significant investments in their target communities to increase the capacity of institutions, including libraries, to create innovative programs that also provide digital literacy training to support healthy and engaged communities.

deine Digital Literacy

While there is no standard definition of digital literacy, there are common concepts that are included in the definitions used by educators, community-based organizations, technology-focused institutions, and policymakers. The overriding issue is that digital literacy is a much broader concept than mastery of basic technical and Internet search skills. The American Library Association (ALA) has found that (1) digital literacy must include mastery of foundational literacy, and (2) digital literacy skills change as technology changes.

ALA defines digital literacy as:

the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills.

Further a digitally literate person:

• Possesses the variety of skills—technical and cognitive—required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats
• Is able to use diverse technologies appropriately and effectively to retrieve information, interpret results, and judge the quality of that information
• Understands the relationship between technology, life-long learning, personal privacy, and stewardship of information
• Uses these skills and the appropriate technology to communicate and collaborate with peers, colleagues, family, and on occasion, the general public
• Uses these skills to actively participate in civic society and contribute to a vibrant, informed, and engaged community (ALA 2012a: 1)

demand, and libraries are working to build capacity to enhance these services. In rural areas, where the library may provide the only no-fee public access to the Internet, the library plays an even more significant role in connecting people who have low-bandwidth or no home Internet access.
The federal government also identified digital literacy as a key component to addressing the digital divide and the resulting societal issues. In 2009 the American Recovery and Reinvestment Act, commonly referred to as “the stimulus,” infused the economy with $7.2 billion to expand access to broadband services. The National Telecommunications and Information Administration (NTIA), in the U.S. Department of Commerce, received $4.7 billion to expand broadband infrastructure, increase public access to computing centers, and encourage broadband adoption among individual consumers. Libraries across the country have received funding, most often for enhancing their public computing centers and through the state library agency as the grant applicant.

NTIA’s Broadband Technology Opportunities Program (BTOP) created three programs to promote broadband access across the country. Of these, the library community has benefited the most from the Public Computing Center program whose goal was to establish new or enhance existing facilities that provide broadband access to the public. All of the library public computing center projects have a significant digital literacy component in the form of formal training classes, open lab time, one-on-one support, and in some instances bringing mobile computer labs out into the community. Many of these projects focus their digital literacy training on job training and readiness and continuing or distance education. In Maine, BTOP funding has provided a major expansion in equipment available to libraries, along with training and outreach to job seekers and small businesses. (Janet McKenney’s article in this issue provides additional information on the BTOP program in Maine.)

To ascertain community impact of the BTOP projects, NTIA commissioned a four-year evaluation study. The researchers identified five focus areas on which to base their evaluation: workforce and economic development; education and training; healthcare; quality of life and civic engagement; and digital literacy. Of these focus areas, the interim report states that digital literacy is “fundamental to all the others” and was the most common service offered. The preliminary research also found that the majority of 65 Public Computing Center projects are located in libraries (ASR Analytics 2012: 11–12). To date, community impact remains anecdotal as the BTOP projects are winding down, but libraries that enhanced or implemented digital literacy programs report significant community participation and support. The current focus of the libraries—without exception—is how to sustain the investments in time, physical additions, resources, and partnerships when the BTOP funds are expended.

In tandem with the stimulus program, in 2010 the Federal Communications Commission’s National Broadband Plan (NBP) also highlighted the need for people to build the skills necessary to take advantage of the opportunities made possible by broadband networks and online resources. According to the NBP, 22 percent of individuals who do not subscribe to broadband cite the lack of digital literacy skills as the primary factor that prevents them from adopting broadband services (FCC 2010).

The NBP broadly recommends that stakeholders form partnerships across private, non-profit, and philanthropic organizations that are supported by a commitment from the federal government and commitments to addressing the issues through state and local action. Specifically, the Institute of Museum and Library Services (IMLS), the federal agency that focuses on library issues, and NTIA are called to build capacity of libraries and community organizations that provide digital literacy programs to the public. The IMLS, together with the University of Washington and the International City/County Management Association, consulted with hundreds of community members and experts over 18 months to identify action steps and a framework for building digital inclusive communities. The result is Building Digital Communities: A Framework for Action (Institute of Museum and Library Services 2012). Digital literacy is one of seven principles of digital inclusion.

As part of the development of the framework, which includes a digital literacy component, IMLS held three state forums, one of which was in Bangor in the fall of 2011. These public forums were attended by a wide variety of community stakeholders including city managers, mayors, K–12 educators, health professionals, librarians, local business owners, and community volunteers. A separate leadership forum brought together community leaders who would be best positioned to
support the implementation of the proposed framework. The Maine State Library was instrumental in organizing the Bangor forum. Of the framework principles discussed, both education and digital literacy ranked as significant areas of concern in Bangor.

Both the FCC and NTIA also initiated efforts in 2011 to support digital literacy. In collaboration with ten other federal agencies, NTIA launched the online portal DigitalLiteracy.gov to provide trainers in libraries and other community-based organizations with links to wide-ranging digital literacy resources and a community of practice to support their work. Organizations, including libraries, providing digital literacy training or related programs are encouraged to contribute and rate content to continually improve the portal.

In October 2011, the FCC kicked off a public-private partnership branded “Connect2Compete.” Modeled after Comcast’s Internet Essentials, launched as part of the Comcast NBC merger requirement in 2011, the initiative brings together low-cost computers and Internet access, micro-credit, educational and workforce-related digital content and digital literacy resources. Families with at least one school-age child eligible for free lunch through the National School Lunch Program are eligible to apply for low-cost hardware and connectivity. A public web site, currently under development, will provide a locator tool to help people to find libraries and other community organizations that provide digital literacy instruction, and also provide links to online training resources.

**DIGITAL LITERACY PROGRAMS IN LIBRARIES**

America’s libraries and librarians are on the frontlines of digital literacy and digital inclusion efforts nationwide. There are approximately 17,000 public library buildings, 99,000 K–12 school libraries, and 3,800 college and university libraries in the United States. These libraries are staffed by approximately 150,000 librarians and provide access to technology resources and services, along with robust and relevant collections of electronic and print materials.

Libraries serve as information hubs, conveners, and collaborators within their educational and community contexts. Librarians also constitute a valuable digital literacy asset. Libraries in communities across the country provide the public with a “triple play” of resources: (1) facilities and physical access to technology infrastructure; (2) a wealth of electronic content; and (3) staffing by information professionals trained to help people to find and use the information most relevant to their needs. Libraries already engaged in digital literacy and technology training report that the most successful programs combine formal and informal training and allow for opportunities for learners to practice their newly acquired skills. Additionally, librarians report the most successful classes do not teach these skills in isolation, but link them to specific outcomes such as employment or financial literacy.

**TABLE 1: Maine Public Library Technology Landscape in 2011–2012**

<table>
<thead>
<tr>
<th>Service</th>
<th>Maine</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide no-fee access to computers and the Internet in local community</td>
<td>76.6%</td>
<td>62.1%</td>
</tr>
<tr>
<td>Offer public access to wireless connection</td>
<td>93.1%</td>
<td>90.5%</td>
</tr>
<tr>
<td>Offer technology training (formal classes and/or informal assistance)</td>
<td>82.2%</td>
<td>90.5%</td>
</tr>
<tr>
<td>Provide assistance to patrons in how to access and use e-government web sites</td>
<td>93.0%</td>
<td>91.8%</td>
</tr>
<tr>
<td>Help patrons complete online job applications</td>
<td>77.2%</td>
<td>76.0%</td>
</tr>
<tr>
<td>Provide access to job-related resources</td>
<td>85.3%</td>
<td>92.2%</td>
</tr>
</tbody>
</table>

Source: ALA (2012b)

The vital role libraries have in connecting community members with needed resources and information was formally acknowledged in 2010 with a Training and Employment Notice from the U.S. Department of Labor to local workforce agencies, which encouraged them to partner with public libraries to extend their career and employment services, known as One-Stop Career Centers, to job seekers and unemployed workers. Among the highlighted benefits One-Stops...
create digitally inclusive communities. Libraries are positioned at the digital literacy intersection—linked with government, education, and the public.

Libraries are especially adept at not only teaching patrons the skills they need to solve immediate problems, but also helping individuals to develop the ability to transfer skills and build on them so they are better prepared for future changes in technology. Often community members come to the library to solve a specific need at a specific moment: someone needs to fill out a job application and submit it online, but does not have an email account nor know how to attach a document to an email; or someone has been told to renew her immigration status, but does not know how to find the forms on the government web site. Providing contextualized and relevant training creates an entree for the person seeking specific help to be introduced to the idea of participating in a class on basic skills needed for employment, for example, that would reinforce the informal experience and broaden that individual's perception of the value of using online technology.

Not only does informal training often open a door to deeper training, it allows new users to practice skills in a way that is personally relevant. Libraries consistently report that providing support for their patrons to be able to do a specific task online (e.g., apply for the federal Temporary Assistance for Needy Families program, fill out immigration forms, monitor a child’s progress in school, renew certifications for work) is a critical daily task for librarians and library staff. Libraries with BTOP projects have reported they are offering staffed lab time for people to practice newly

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**Libraries Support Job Seekers**

- 30 million library users went to the library for employment activities in 2010
- 76 percent of these searched for jobs
- 68 percent of these applied for a job or submitted a resume
- 33 percent secured an interview
- 16 percent were eventually hired (Becker et al. 2010)
acquired skills or time for those who need extra support learning a particular skill.

Successful formal classes are also often topical. For example, libraries might teach basic computer skills in a class where the participants learn to clip coupons and teach Internet search skills by planning for a trip. At the Bangor Public Library, for example, “Facebook for Seniors” is geared toward connecting older adults with family and friends so that seniors are not isolated. These classes are staffed with trained instructors who can provide the additional necessary support for people trying a new technology. Reluctant users are often encouraged to adopt broadband-enabled technology after experiencing these personally relevant interactions at their libraries.

Despite real challenges, librarians are tenacious and continue to develop innovative digital literacy services and resources through partnerships....

Nationally, about 35 percent of all libraries offer one-on-one training by appointment and approximately 83 percent offer informal, point-of-use training support (ALA 2012c: 25). Many libraries develop a suite of digital literacy training programs that encompass formal classes, staffed lab time, one-on-one training by appointment, and training options held offsite sponsored and managed by the library. Library staff determine which model best addresses community needs and design a comprehensive program that can be adjusted to ensure the program remains relevant and reaches targeted populations.

CHALLENGES TO MEET THE DEMANDS

In the current economic climate, libraries, like other community organizations, face significant obstacles in building capacity necessary to meet growing demands for digital literacy training, as well as to sustain current investments in such programs. Libraries consistently identify three challenges: limited staff, inadequate staff training, and insufficient public computer terminals. Staffing concerns are among the most critical and include staffing to manage volunteer recruitment efforts. Many libraries are suffering budget cuts that further constrain their capacity to provide critical support in their communities.

Though all public libraries have seen an increase in patron demand for digital literacy training, there is a divide between what urban and rural libraries experience. Rural libraries, accounting for more than half of all U.S. public libraries, find it challenging to provide adequate technology training. About 32 percent of rural libraries, as compared to 63.2 percent of urban libraries, provide formal technology training classes (ALA 2012d). This difference is due in part to limitations of facility size, available public computers, and available staffing and staff expertise. However, the disparity between urban and rural libraries is not as great for libraries reporting informal point-of-use training, with about 80 percent of rural libraries offering such training and 85 percent of urban libraries reporting doing so (ALA 2012c).

BUILDING LIBRARY CAPACITY

Despite real challenges, librarians are tenacious and continue to develop innovative digital literacy services and resources through partnerships with community-based organizations, local government agencies, other libraries and educational organizations, and local businesses and foundations. Libraries involved with the public computer center programs funded by NTIA provide the most robust examples of partnerships that build capacity in providing specific services to the public. These projects are ripe for modeling successful programs in communities where such programs have not yet been established.

Digital literacy as a necessary ingredient for broadband adoption will be further reinforced in 2013 as the Ad Council (with Connect2Compete) launches a three-year campaign to promote the importance of digital literacy and motivate individuals and families to access free community resources and training. To gear up for
this multimedia, multilingual campaign launching in spring 2013, IMLS funded two national efforts to improve public library capacity to meet demand for digital literacy instruction. The Public Library Association, a division of the American Library Association, will develop an online Digital Learning Center—a collection of digital literacy resources that will be accessible to libraries, patrons, and other community-based organizations. In addition to user-directed resources, the grant activities will include development of training curricula in English and Spanish, technology trainer competencies, handouts, and assessments of patron skills. OCLC WebJunction will work with state libraries in Illinois, Mississippi, and West Virginia, federal policymakers, and Connect2Compete to help national digital literacy efforts to effectively work with public libraries to plan for and deliver digital literacy training.

Increasing the level of digital literacy in communities also is recognized as a vital part of quality public library service in a new national effort funded by the Bill & Melinda Gates Foundation. Launched in March 2011, the Edge Initiative is an effort driven by a coalition of leading library and local government organizations to develop public access technology benchmarks for public libraries. Providing assistance and training for digital literacy is one of 11 total benchmarks, which also touch on aligning technology with community priorities, strategic partnerships, and maintaining high-quality computer and Internet services. The Edge Initiative helps libraries to evaluate technology services and advance digital inclusion in their communities. It provides tools and resources library leaders can use to engage staff and local government officials in understanding where the library stands in relation to its peers, highlighting how public access technology helps achieve community goals, and identifying new ways of conducting business through best practices. The Edge benchmark framework is scheduled to launch in 2013 (www.libraryedge.org/).

A LOOK INTO THE NOT-SO-DISTANT FUTURE

Beyond the need for digital literacy programs, many libraries are incorporating what today may be innovations, but in the not-so-distant future may be common practice. Through communities of practice that are emerging around the importance of staying abreast of trends in technology, librarians are experimenting with creative uses of technology that provide their patrons with opportunities for experiences beyond basic skills-building. Libraries are engaged in a number of national initiatives geared to spark innovation, promote the use of high-capacity broadband networks, and encourage the development of replicable programs to deepen the impact of these pilot initiatives.

IMLS and the John D. and Catherine T. MacArthur Foundation have begun funding projects in libraries (and museums) that engage young people in a learning model that promotes creativity, critical thinking, and real-world learning through facilitated activities and experiences using a variety of digital technologies. The labs connect teens to mentors and peers and help teens to make the connection between their interests and academics, career, and civic engagement. To support libraries interested in replicating these “learning labs,” the MacArthur Foundation has also created a toolkit with resources for libraries and other organizations to develop similar programs. Similar in intent to the learning labs, “makerspaces” are also a nod to future potential for libraries to become incubators for innovation, particularly as related to STEM (science, technology, engineering, and mathematics) areas. Makerspaces are generally described as innovative workshops or studios that provide access to computer-controlled tools, 3D printers, and other technical resources, which allow patrons to explore their interests, use new tools, and develop creative, often collaborative, projects.

In June 2012 the White House, with the National Science Foundation, announced U.S. Ignite, an initiative to jumpstart the development and testing of new broadband applications and help the nationwide adoption of high-capacity gigabit broadband networks. It will bring together high-speed broadband resources to create test beds in universities and cities nationwide. To provide an entry into the opportunities represented by U.S. Ignite, IMLS funded “Inclusive Gigabit Libraries: Learn, Discuss, and Brainstorm,” a project of the Graduate School of Library and Information Science at the University of Illinois Urbana-Champaign. The project will discuss current practices and needs in
libraries and brainstorm new applications or service models that take advantage of ultra-high-speed connectivity, ultimately resulting in better and more robust service to library patrons.

Libraries are uniquely positioned to enable community members to develop applications and to test new applications with a broad and diverse range of patrons. Library pioneers will explore what might be possible in a transformational technology space, and how to best maximize learning from gigabit libraries to increase adoption in other libraries. Through these and similar movements, libraries are reimagining the library space to continue to meet community information needs, regardless of the given state of technology or the next generation formats through which we will have access to information resources.

NEXT STEPS

Whether through a national, state, or local lens, digital literacy must remain a focus. Now that the connection between digital literacy and economic competitiveness has national legitimacy, the race is on to determine the fastest, most efficient way to ensure young people are ready to meet the demands of tomorrow’s jobs, to retool today’s workforce, and to enable our citizens to fully engage in civic life. Although investments in digital literacy programs are underway and are reporting success, it is up to the stakeholders to identify the best path for sustaining current projects and transitioning current projects to meet future needs. Research to quantify the long-term impacts of such projects should be used to determine where communities should focus the next investments or if reinvesting in current projects, which ones will result in greatest impact. Partnerships developed in these projects should be strengthened and in some instances broadened to include new players.

Libraries represent tremendous leverage to potential partners and should be considered as logical collaborators to further the missions of specific agencies or organizations and broader community goals. Leveraging library digital literacy resources and expertise should be part of local, state, and national initiatives that require a digital literacy component. At the same time, libraries are not without their own needs and because of their strong connection and commitment to local communities, they should receive stable support through the conventional library budget system along with augmentation via other appropriations and through public funds or private philanthropy. Communities benefit from efforts to provide access to high-capacity broadband and technology for libraries and other community anchor institutions. The most significant on-going technology and infrastructure support for public libraries remains the E-rate program which brings millions of dollars to libraries (and schools) each year. This critical program needs continual champions, such as former Maine Senator Olympia Snowe who has been a strong supporter since the program’s inception in the late 1990s, to make sure this funding source remains viable.

Librarians well understand that investments in technology alone will not answer the shortcomings of current efforts. The library community contributes a unique set of skills as a partner whom the community trusts and one that understands that the “right” digital literacy skills cannot be checked off a national to-do list. Libraries are already anticipating the next iteration of literacy knowing that technology will continue to influence how we access and share information—and what we do with it that will further our personal, social, and national goals.

REFERENCES


Marijke Visser is assistant director of the American Library Association’s Office for Information Technology Policy (OITP) in Washington, DC. Her portfolio includes issues surrounding broadband adoption, such as digital literacy and challenges specific to diverse populations.