

The Inclusive Libraries Initiative: Enhancing the access of persons with developmental disabilities to information and communication technology

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Through assistive technology, individualized support, and community-based activities, the Inclusive Libraries Initiative is increasing the capacity of rural libraries in Northeast Alberta to attract and serve patrons with disabilities, particularly developmental disabilities. Local public libraries are important natural supports for adults with developmental disabilities and others, providing access to web-based information and communication technology (ICT) as well as to conventional library offerings. Enhanced access to ICT is an important step in helping individuals with developmental disabilities increase their ability to obtain firsthand information, broaden their social support network through the use of communication technologies, and bridge the "digital divide" that prevents them from full inclusion in our knowledge-based society.

Introduction

Libraries sit at the heart of our communities. Every day, people of all ages visit their local library for reading, learning, conducting research, communicating with others, or for just socializing with others. But some patrons, or would-be-patrons, cannot, for a variety of reasons, use their library's offerings. Some of these potential users have disabilities or other limitations and are unable to access the resources. Others require special tools or alternative forms of library materials to allow them access to information. Still others are unaware of what a library can provide, particularly online materials and resources, or don't have the skills they need to use Internet-based information and communication technology.

Promoting inclusion is key for reducing or removing such barriers. An inclusive library is a vital community resource, addressing the diverse information needs of all members in the community (Canadian Library Association, 2005; Scott, 1996). Enhancing the accessibility of local public libraries helps build social capital, increasing the capacity of the community to meet the needs of all its citizens, including those with disabilities, and particularly those with developmental disabilities, the focus of the project reported herein.

For people with developmental disabilities, like other citizens, access to and the ability to use web-based information and communication technology is important for inclusion and social participation, as well as for both formal and informal online learning (Jeffreys & Galls, 1996). Information and communication technology can play an important role in the lives of adults with developmental disabilities, enhancing their independence, autonomy, and capacity to be meaningfully included in their communities and in the “global community” as well.

In our increasing knowledge-based society, libraries provide access to a valuable resource and commodity – web-based information – and those without access to it are disadvantaged in many ways. The Internet has had a tremendous impact on the exchange of information and modes of communication, becoming a fundamental part of education and day-to-day life worldwide. The advent of the Internet has been described extensively in the literature, its impact likened to that of the Industrial Revolution (Castells, 1996). Indeed, some contend that Internet connectivity is a basic utility, like hydro or electricity; indeed, for many users, finding that one’s Internet connection is “down” is an emergency akin to being without power or water.

Local public libraries are ideally positioned to serve as a conduit for this essential service. This is particularly true in rural communities where the “digital divide” -- the gap between those who have access to web-based technology and those who do not -- is particularly acute. DiMaggio, Hargittai, Neumann, and Robinson (2001) describe the digital divide as involving “inequalities in access to the Internet, extent of use, knowledge of search strategies, quality of technical connections and social support,

[and] ability to evaluate quality of information.” Cuneo (2002, p. 7) approaches the problem more broadly and from a variety of perspectives, ultimately identifying the following 12 types of contributing factors that may underlie the disparity in people’s ability to access web-based information and communication technology: demographic; geography; gender; age; psychological (e.g., attitude); educational; economic; sociological; labour; cultural; disabilities; and political.

In the rural communities (such as in Northeast Alberta where this project is situated), common barriers to the use of web-based information and communication technology include a lack of (or outdated) computer equipment and poor Internet connectivity, as well as lack of basic computer skills and low levels of literacy. These barriers are especially acute for people who are economically or socially disadvantaged, particularly people with disabilities as well as others in marginalized groups (e.g., aboriginal people, those for whom English is a second language, recent immigrants, those living in poverty). Local public libraries can help to overcome these barriers by providing computer resources and Internet access, as well as assistance and support in the use of web-based information and communication technology. In addition, the provision of assistive technology and adaptive devices can further assist those with disabilities or other limitations.

The *Inclusive Libraries Initiative* has been designed to address the above-mentioned barriers to web-based information and communication technology, to improve access, and to provide assistance and support for patrons with disabilities, particularly developmental disabilities. Since its inception in 2003, this project has been fostering the development of inclusive libraries in Northeast Alberta (Moisey, 2005). The project is based on the premise that local public libraries are ideally positioned to offer access to high-quality computer and web-based technology, as well as expertise in their use. Libraries are natural supports for individuals with developmental disabilities, and can be developed to increase community capacity, thereby enhancing the inclusion of individuals with developmental disabilities in the communities where they live, work, and learn.

Project Participants

The *Inclusive Libraries Initiative* is a collaborative project involving Athabasca University, the Northeast Community Board for Persons with Developmental Disabilities (PDD), the Libraries Branch of Alberta Provincial government and, currently, eight participating libraries. The Northern Lights Library System has just recently joined the project as a partner as well.

The project encompasses the northeast region of the province served by the Northeast PDD Board, an expansive geographic area with a population of approximately 212,000 people. There are 20 libraries, served by 16 librarians, in the region. These libraries range in size; the largest serves a city of approximately 61,000, the smallest a village of less than 400. Some libraries are located in schools (Moisey & Burke, 2003).

As noted earlier, the *Inclusive Libraries Initiative* is designed to attract and serve library patrons with disabilities, particularly those with developmental disabilities (e.g., Down syndrome, autism). In Northeast Alberta, there are approximately 550 adults with developmental disabilities receiving services and supports funded by the Northeast Alberta PDD Community Board, a subset of approximately 10,000 individuals who receive such supports in Alberta. As set out in the *Persons with Developmental Disabilities Community Governance Act* (Government of Alberta, 1997), these adults have the following characteristics: a developmental disability with onset before 18 years of age; significantly below average intellectual capacity; and limitations in two or more adaptive skill areas (i.e., communications, self-care, home living, social skills, community use, self-direction, health and safety, functional academics, work, and leisure)..

Currently, there are eight participating libraries in the *Inclusive Libraries Initiative*. The project began with the St. Paul Regional Public Library in 2003, and a year later, the Westlock Public Library joined. Between 2005 and 2006, five libraries were added from the towns of Barrhead (their public library also houses the local school library), Lac la Biche,

Whitecourt, Athabasca, and Bonnyville. In 2007, the Cold Lake Public Library was added. (It is anticipated that the next library to become a participant will be from the rapidly growing municipality of Ft. McMurray.)

Components of the Project

The *Inclusive Libraries Initiative* involves a number of components as described below.

“Building an Inclusive Library” web site

This web site (located at <http://www.inclusivelibraries.com>) provides step-by-step information for librarians on how to increase the capability of their libraries to serve patrons with disabilities, particularly those with developmental disabilities. The Resources section includes useful publications, training resources, and promotional materials.

“Everybody’s @ the Library” design and word mark

This design and word mark has become the visual image of the project. It is used on the web site, as well as on promotional materials, such as posters and buttons. The poster is downloadable from the *Building an Inclusive Library* web site.

Resource and Readiness Analysis

A survey was conducted to assess the current state of technology and use of public libraries in the Northeast region by patrons with disabilities (Moisey & Burke, 2003). Semi-structured interviews were conducted with 17 librarians representing 20 libraries. The data collected in this analysis serves as a baseline for monitoring the effectiveness of the project. The report is available on the *Building an Inclusive Library* web site.

Librarian Development Series.

A series of training/development activities was conducted to increase the knowledge and skills of librarians and Library Board members, as well as to promote interest in enhancing accessibility and promoting community inclusion. One of the presentations, "Easy Access for All," is available as a web cast on the *Building an Inclusive Library* web site.

Orientation and Outreach Activities.

These activities are designed to increase the knowledge and skills of individuals with developmental disabilities in the use of information and communication technology, and to introduce the idea of an inclusive "global community" to which they belong. The activities were designed based on the recommendations of a community development consultant, and further developed with the assistance of participating libraries.

Initially "Pizza night" Internet orientation sessions are held to introduce community residents to computers and the Internet and to the resources available at the library. Activities are focussed around exploring the *NorthEast Community Online* web site (<http://www.ne-community.com>), which has been designed specifically for adults with developmental disabilities and their families. Through explorations of this site, attendees practice basic computer and Internet skills (e.g., using a mouse, linking to other web sites, using a search engine). In addition to developing skills and knowledge, these orientations sessions serve to increase participants' confidence in the use of computers and the Internet, and promote their interest and motivation to continue their use of online technology.

A variety of outreach activities have been developed to encourage individuals with disabilities, and especially those with developmental disabilities, to use the web-based information and communication resources available at participating libraries. For example, to encourage the use of e-mail, a weekly program called "E-mail Monday," has become a regular event at several participating libraries. Every Monday evening, a dedicated staff member is available to assist patrons

(regardless of ability or disability) with any of a variety of e-mail-related functions, e.g., obtaining an e-mail account, composing a message, reading messages, and so forth. In one area, the local literacy society has joined this effort by providing volunteers to assist with reading and writing. "E-mail Monday" has proven to be a successful strategy. Through the use of e-mail, individuals with developmental disabilities are experiencing the benefits of having more communication with a larger social network. As an added benefit, "E-mail Monday" adds a regular social activity to their week, something that is looked forward to and enjoyed by growing numbers of library patrons.

Another regular activity is known as "Active Reading," which promotes patrons' enjoyment of books while promoting their literacy. Books are scanned or e-books accessed, and then processed by text-to-speech software (Read & Write), which highlights words as they are spoken. In this way, patrons can listen and read along. Rather than the passive activity of listening to a recorded book, Active Reading keeps readers more involved as they use assistive technology to help them process and read text. An additional benefit is that patrons learn to use assistive technology (i.e., text-to-speech software) as a tool to help them access web-based information and other forms of digital text (e.g., e-mail messages, word processed documents), thus improving their ability to obtain information firsthand and maintaining their privacy by not having to ask others to read for them.

In addition to special programs and activities such as those described above, personalized service by librarians or library staff also contributes toward increasing the knowledge and skills of individuals with developmental disabilities in the use of information and communication technology. Through the training they receive, library staff are able to identify individual patron needs, determine an individualized configuration of assistive technology, and teach patrons to use the particular assistive technology they require. Typically appointments are made to ensure that sufficient time is available to conduct a thorough assessment of the patrons' needs and ensure they are able to use the required assistive devices or software. Support workers often accompany individuals with developmental disabilities, and they too are

trained in the use of the technology in order to provide continuing support and encouragement to the individual they serve.

Finally, in order to promote and publicize the inclusive services and support as well as to demonstrate the capabilities of the assistive technology available at the library, both onsite and outreach activities are provided. In addition to training, coaching, and workshops, participating libraries are making presentations to local groups and organizations, such as service clubs, seniors' groups, service provider agencies, long-term care facilities, and group homes. As a result, increasing numbers of new and existing patrons with disabilities are coming to the library to access web-based information and benefit from the communication capabilities the Internet offers.

Assistive Workstations

Assistive workstations are the major feature of the *Inclusive Libraries Initiative*. Each participating library is provided with a computer workstation equipped with a variety of adaptive input devices and assistive software. Assistive workstations are comprised of the equipment and software listed below:

- Adjustable hydraulic table (to accommodate wheelchair users)
- Up-to-date computer, standard mouse and keyboard, and 19" flat-screen monitor
- Speakers and headphones
- Input Devices: (all use USB ports for easy installation)
 - two keyboards (one with large keys and one with extra-large coloured keys) – includes key guard (especially useful for keyboard users with hand tremors) – also includes protective plastic covers
 - large trackball
 - other mouse alternatives (foam ball on joystick, flip switch, large "big buddy" buttons)
- Software:
 - Read & Write Gold (Texthelp) – provides text-to-speech and word prediction functions

- WordQ -- provides a simple text-to-speech function – available in French and English versions (both are provided to libraries serving Francophone communities)
- Zoomtext – provides screen magnification as well as a text-to-speech function (provided to libraries serving patrons with severe vision loss)
- Standard software – Internet Explorer, Microsoft Office, Norton Utilities

The particular configuration of adaptive devices and assistive software outlined above has been specified by an assistive technologist with the purpose of addressing the greatest number of disabilities at the lowest cost. The result is a suite of tools that meet the needs of a wide variety of users with disabilities (e.g., mobility difficulties, low vision, problems with fine motor coordination, cognitive disabilities) as well as those with reading difficulties or low-level literacy. The configuration of equipment and software is a subset of the assistive technology used in the Accessible Library Experience (ALEX) project conducted by the Calgary Public Library in 1999-2002 (Bede & Dawes, nd.).

Training is also included. As part of the equipment provision arrangement, library staff (and other interested parties such as library board members and support staff from local service provider agencies) are provided with a one-day workshop to learn about the technology and become proficient in its use.

The total cost of each workstation (including the hydraulic table) is approximately \$6,500.00, plus about \$1,000 for training.

Project Approach

The *Inclusive Libraries Initiative* utilizes a “top-down” approach such that the Board of each participating library is involved and supportive of the project from the outset, and recognizes the importance of promoting inclusion in the operations of the library and its value as a community resource for individuals with developmental disabilities.

The initial contact is made with the Board Chair, although the librarian may also be involved. The library's participation is discussed at a meeting of the Board, with the project director (the author) in attendance to outline the parameters of the *Inclusive Libraries Initiative* and to answer questions board members might have. If the Board agrees to be a participant, they are provided with a Memorandum of Understanding (Appendix 1), which outlines the project and sets out the role and responsibilities of each collaborating partner. Once the Board Chair and other collaborating partners have signed the Memorandum of Understanding, arrangements are made to initiate the project, e.g., officially announce the project, acquire the assistive workstation, organize promotion events in the community, and so forth.

Participating libraries are typically enthusiastic and strongly committed in their involvement. They promptly get activities underway to show their commitment toward becoming more inclusive in serving the community, and to better serve patrons with disabilities, especially for those with developmental disabilities. Several libraries have held an official "launch" of the program, with board members, elected officials, and the media in attendance and even with ribbon-cutting ceremonies to acknowledge the contribution of the assistive workstation. Their efforts are being acknowledged by the broader library community as well. For example, in 2007, the St. Paul Regional Library received the Alberta Libraries Trustees Association Award of Excellence in recognition of their work in promoting inclusion and serving patrons with disabilities.

Concluding Remarks

The *Inclusive Libraries Initiative* has made, and continues to make, significant inroads in attracting and serving library patrons with disabilities, and particularly those with developmental disabilities. Through this project, individuals with developmental disabilities are becoming enthusiastic library users; growing numbers of individuals are attending the library weekly to send and receive e-mail and participate in other web-based activities. Some are using the library more frequently and have become adept at accessing information and communication technology and incorporating it into their day-to-day lives; for example,

one library patron with a developmental disability is going to the library daily and using the specialized software to read the newspaper in order to keep abreast of world events. For some there is growing interest in other forms of technology use as well, such as web cams, as well as the use of instant messaging and involvement in online communities.

The project is increasing the libraries' capacity to serve those with other types of disabilities as well. There are anecdotal reports of new patrons; for example, in one town, an illiterate farmer visits the library weekly to check market prices and a woman with low vision has become a regular user of online shopping and e-mail. There is better service for existing patrons. For example, older people with arthritis are enjoying the larger keyboards, and those who have difficulty using a mouse are finding the new trackball much easier to manipulate. Those with learning disabilities or reading difficulties are using the text-to-speech software to make online information more accessible.

Developing the capacity of libraries to include and serve individuals with developmental disabilities has tremendous potential. Through this project, we are witnessing that libraries are an effective means of providing natural supports to individuals with developmental disabilities and promoting their inclusion in both their own communities and the "global community," through increased access to information and communication technology. Investing in local libraries is a sound strategy for developing community capacity, increasing access for patrons with disabilities, and enhancing the inclusion of individuals with developmental disabilities in their community.

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Appendix A

Letter of Understanding Inclusive Libraries Initiative

The **Inclusive Libraries Initiative** is designed to enhance the capacity of rural libraries in Northeast Alberta to serve patrons with disabilities, particularly developmental disabilities. The project is based on the belief that local public libraries are an important natural support for adults with developmental disabilities, and others, providing access to online information and communication technology as well as to conventional library offerings. With appropriate technology and support, libraries can enhance their ability to attract and serve patrons with disabilities.

The Inclusive Libraries Initiative is a collaborative project involving Athabasca University, the Northeast Alberta Community Board for Persons with Developmental Disabilities (PDD), and selected local public libraries in Northeast Alberta. This Letter of Understanding specifies the role and contributions of each of the partners.

Partnership Contributions

The contribution of Athabasca University includes:

- Project direction and administration of funds.
- Coordination of project activities including liaison with libraries, procuring equipment, monitoring project progress and determining outcomes.

The contribution of the Northeast Alberta PDD Board includes:

- Provision of funding through a Community Capacity Development grant in order to purchase an assistive workstation and training in its use. The assistive workstation includes a personal computer, adjustable computer table, variety of assistive devices (e.g., trackball, large key keyboard, joystick),

standard software (Internet Explorer, Microsoft Office), adaptive software (Read&Write).

- Advice on matters pertaining to enhancing community inclusion for adults with developmental disabilities.

The contribution of the [name of participating library] includes:

- Provision of an accessible area for housing an assistive workstation.
- Promotion to ensure the use of the assistive workstation by communicating with community organizations and individuals with disabilities.
- Support for patrons using the assistive workstation to increase their ability to access and use online information and communication technology.
- Development and promotion of activities (e.g., "E-mail @ the Library," Internet orientation sessions, workshops on basic computer skills) to enhance the ability of patrons, particularly those with disabilities, in the use of online information and communication technology.
- Consideration of factors pertaining to accessibility and community inclusion in the ongoing planning of library operations, facilities, and programs.

Outcomes

The Inclusive Libraries Initiative is directed toward the attainment of the following outcomes:

- Patrons with disabilities will have improved library service and supports.
- Libraries will attract new patrons with disabilities.

- Patrons will increase their use of web-based information and communication technology.

Agreement

The signatures below indicate acceptance of the contributions and outcomes included in this Letter of Agreement.

[name of participating library] Library Board _____
Date