



NEADS

National Educational Association Of Disabled Students

**Access to Academic Materials for
Post-Secondary Students with Print
Disabilities**

Access to Academic Materials for Post-Secondary Students with Print Disabilities

Final Report: May 2005

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Many thanks to the 197 students with disabilities and service providers from across Canada who participated in our survey research. Also, we would like to acknowledge the excellent written submissions that we received from the following organizations: Assistive Technology BC, Disability Service Providers in Post-Secondary Education in Alberta, Canadian Association of Disability Services Providers in Post-Secondary Education, Steering Committee on Transcription Services (Ontario Ministry of Education), W. Ross MacDonald School, College Committee on Disability Issues (Ontario), Canadian Association of Educational Resource Centres for Alternate Formats and the British Columbia College and Institute Library Services.

This report was written by Liam Kilmurray and Neil Faba, with support from Laurie Alphonse; edited by Neil Faba and Frank Smith. All online content for the project was developed by Chris Gaulin, NEADS' Website Architect.

EXECUTIVE SUMMARY

The project Access to Academic Materials for Print Disabled Post-Secondary Students: A Partnership of Users and Service Providers was a sixteen-month project which started in December, 2003. The initiative was funded with support from the Government of Canada's Social Development Partnerships Program. The project was guided by a steering committee of stakeholders including: students with print disabilities, post-secondary disability service providers, librarians and affected non-governmental organizations.

This report is the outcome of a number of phases of the project work: consultations with our steering committee members, research into the "current state" of the provision of academic materials in alternate formats across Canada, and the soliciting of submissions from non-governmental organizations. A consultation with members of NEADS took place during a workshop at our national conference "Right On!" in November 2004. A full report of the conference session is available on the NEADS website at www.neads.ca/conference2004. An important component of the project was survey research involving two groups of respondents in post-secondary institutions: students with print disabilities, and disability service providers. One hundred and ninety-seven individuals completed our questionnaires: 130 students with disabilities and 67 post-secondary service providers. We report on the findings of this original research throughout this report, which also includes submissions from eight organizations and a chapter of "organizational profiles" describing the current system of delivery and production of academic texts in alternate formats on Canadian campuses.

Based on the empirical research, consultations undertaken during the project, and submissions from other organizations, we make a number of recommendations to support students with print disabilities in their pursuit of an accessible post-secondary education:

- Post-secondary students with all types of print disabilities should have access to academic materials for their studies in a format or formats of their choice.

- Materials provided must be made available in a timely manner to ensure that students who cannot use standard print can pursue college and university education on a level playing field, with equal access to all the tools of learning.
- Publishers should make their books readily available in accessible, useable, complete electronic formats, at a reasonable price.
- Initiatives such as the National Network for Equitable Public Library Service for Canadians with Print Disabilities, which includes the development of a Clearinghouse for making publishers electronic files available to alternate format producers, be supported in order to improve access to information for Canadians.
- In this regard, changes to Canada's copyright legislation are required so that the needs of those who cannot read regular print are acknowledged and accommodated.
- Students with disabilities are entitled to a complete version of the book, and all information that is available in the printed version including text as well as graphs, charts, tables, etc.
- While there is a need to establish professional standards of quality production of alternate format texts and other learning materials in Canada, this should not create an impediment to timely delivery. For that reason, disability service centres and libraries on college and university campuses should have sufficient resources, staff, and technology to continue to produce materials in a variety of formats and of different types – as required by individual students – in-house.
- In fact, there is a need for greater resources that allow academic materials to be professionally produced by those organizations that have the capacity and the expertise.
- Professionally produced books and other learning materials in all formats should be made more widely available for sharing between schools, libraries, provinces and jurisdictions.
- Professors, teachers and instructors must be willing to support the learning needs of all of their students, including those with print disabilities. Reading lists and academic requirements for each course of study must be established with

sufficient lead-time to allow materials to be rendered accessible to students in formats of choice at the beginning of each semester.

- Accessibility does not end with required readings. Students with print disabilities must be able to participate in all aspect of campus life and must have access to other types of materials, including course calendars, handbooks and campus newspapers.
- Professors and instructors must become more understanding of and familiar with the requirements of students with print disabilities in their classrooms. Depending upon the school, this may necessitate the delivery of faculty training/workshop sessions involving students and disability service centre staff.
- The Internet is being used by post-secondary institutions and faculties for course work. University and college websites must be fully accessible, in particular for those who use screen-reading software.
- Technology can level the playing field and allow students with disabilities to compete and succeed in a post-secondary environment. Students who require alternate format materials must have access to the best, most appropriate technology – both hardware and software – at an affordable price. The equipment must be made available to students in their homes and also in campus disability service centres, libraries and all computer labs.
- To make full use of technologies, students with print disabilities must be provided with professional training in the use of their equipment.
- Students are often put in a position where they have to produce course materials in alternate formats themselves. This can be time-consuming and exhausting and can take away from much-needed study time. Students with disabilities must have their academic materials provided in a format of their choice from a reliable source.
- Often the biggest barrier to access to post-secondary education for students with disabilities is adequate funding to attend school considering disability related costs. The Canada Student Loans Program and provincial student financial assistance programs must continue to support students with disabilities through the Canada Study Grants and similar provincial bursary programs in terms of funding for equipment and services costs relating to access to academic materials in formats of choice.

Introduction to the NEADS Project

A proper post-secondary learning experience is largely dependent on the student's ability to possess, and to gather information from, academic materials—textbooks, lecture notes, exam papers and the like. For students living with a print disability, this means being able to secure the same materials made available to classmates, in an alternate format suited to their own learning needs. But just three percent of the world's literature is available in alternate formats. This creates roadblocks for print-disabled students. Time-consuming delays can occur in situations where the materials are not available in alternate format but must be produced by an educational institution, a service provider, or a provincial library. In some situations cost, technology, copyright legislation or societal ignorance stand in the way of such materials even being produced.

The last major NEADS study that addressed the issue, among others, of access to academic materials for post-secondary students with disabilities was the 1999 NEADS study: *Working Towards A Co-ordinated National Approach to Services, Accommodations and Policies for Post-Secondary students with Disabilities: Ensuring Access to Higher Education and Career Training*. Since 1999, things have improved. There has been a steady increase in digital format texts in libraries such as that of the Canadian National Institute for the Blind (CNIB), and better access to funding for students to acquire adaptive equipment and services through government financial assistance programs including the Canada Study Grant. At the same time, a collaborative approach to the sharing of resources and academic materials for post-secondary students has developed through programs like the Canadian Association of Educational Resource Centres for Alternate Formats (CAER). CAER is a consortium of provincial educational service centres in British Columbia, Ontario and Manitoba that provides alternate formats and technology to Canadian students with print disabilities, primarily in grades K to 12 but also in the post-secondary sector, through a mandate from the respective provincial ministries of education/advanced education. In addition, CAER has two members that are university library services, which also serve members of the consortium through interlibrary loan services.

Another significant development is the increase in the catalogue of professionally produced alternate format materials available through the National Library of Canada (now Library and Archives Canada) and its AMICUS online database. AMICUS lists all reported alternate formats held in libraries and organizations across Canada and makes them available through inter-library loan. More disability service centres on college and university campuses are producing texts for students with print disabilities in-house in a variety of formats. Also, professional organizations of disability service providers, including the Canadian Association of Disability Service Providers in Post-Secondary Education (CADSPPE) nationally, are addressing issues related to the production and delivery of quality alternate format materials.

But as the comments, survey results, and organizational submissions presented in the following pages show, there are still deficiencies in Canada's post-secondary alternate format provision system. On many campuses, the awareness of print disabilities and the related needs of print-disabled students is lacking; on campuses where the awareness of these challenges is higher, often funding and lack of cohesive service delivery limit the ability of service providers to offer alternate formats to students.

A variety of services do exist to provide academic materials in alternate formats to students. Some of these services are campus-based, with individual post-secondary institutions producing materials for eligible students and/or providing the equipment needed for students to produce such materials on their own. In other instances, alternate format provision is aided by services that are provincial or regional in scope (in Ontario, Manitoba and British Columbia, for instance). Additionally, disability organizations such as the CNIB offer alternate format materials to members.

But the lack of a cohesive, centralized source for alternate format production and provision in Canada can result in inconsistent quality, delayed provision of needed materials to students, and confusion on the part of the student as to exactly where to turn for the resources they require.

The NEADS project, Access to Academic Materials for Print-Disabled Post-Secondary Students: A Partnership of Users and Service Providers was undertaken with these issues

in mind. The project was begun in December 2003, and has been completed with assistance of partnering organizations the Council on Access to Information for Print Disabled Canadians, the Canadian Association of Disability Service Providers in Post-Secondary Education (CADSPPE), and the Learning Disabilities Association of Canada. Funding was made available through the Government of Canada's Social Development Partnerships Program (SDPP).

Phase one of the project involved conducting research into the current state of alternate format service provision in Canada. NEADS Project Consultant, Neil Faba, undertook this process, the results of which were presented in a written report that served to inform and guide subsequent stages of the project. Alternate format materials production and distribution by campus-based and other organizations was examined in this phase, as was Canada's relevant copyright legislation. Position paper submissions were also collected from stakeholder organizations across the country. Elements from this phase of research are presented in the final report, and we have printed all submissions received in an appendix at the back of the report. Key recommendations from organizational submissions are included in the body of the report.

Phase two involved designing and delivering two surveys regarding access to alternate format academic materials. One survey was directed at students with print disabilities at post-secondary schools across Canada; the other surveyed college and university disability service providers, who work to ensure that students have the academic materials they require. NEADS Project Consultant Dr. Liam Kilmurray led this research phase. Surveys were delivered in the fall of 2004. The results from each survey have been reviewed and analyzed, and the findings are presented throughout this report.

The project has been guided each step of the way by a steering committee of representatives from key stakeholder groups in government, service provision and the post-secondary community. Committee members were:

- Leo Bissonnette, Member, Ad Hoc Alternate Format Committee, Canadian Association of Disability Service Providers in Post-Secondary Education/ Co-ordinator, Office for Disability Issues, Concordia University

- Serge Brassard and Paulo Monteagudo, Association québécoises des étudiants ayants des incapacités au postsecondaire (AQEIPS)
- Robin Drodge, former Newfoundland and Labrador representative, NEADS Board of Directors
- Mary Anne Epp, Director, Library Contract Services, Langara College
- Catherine Fichten, Co-Director, Adaptech (Dawson College)
- Gladys Loewen, President, Canadian Association of Disability Service Providers in Post-Secondary Education
- Trisha Lucy, Librarian, Library and Archives Canada
- Pauline Mantha, Executive Director, Learning Disabilities Association of Canada
- Rachael Ross, President and British Columbia Representative, NEADS Board of Directors
- Jutta Treviranus, Director, Resource Centre for Adaptive Technology, University of Toronto
- Elizabeth Walcot-Gayda, Council on Access to Information for Print-Disabled Canadians

The NEADS project team consulted with steering committee members over the course of two face to face meetings in Ottawa, by conference call and through an electronic discussion forum. Speaker presentations and student delegate feedback given at a workshop on Access to Academic Materials at the 2004 NEADS national conference was also helpful in guiding our research. The report of proceedings from this conference is available for viewing online, at www.neads.ca/conference2004.



Advances in technology are gradually making it easier to convert traditional texts to alternate formats, and for users to navigate and use such alternate formats. Audiobooks, for instance, are now being recorded to MP3 and Mini Disc formats, allowing users to skip ahead or go back easily, by chapter or page. The prevalence of computers on campuses and in homes is also increasing, affording people with print disabilities further technological possibilities in a learning environment. But improvements in technology are not necessarily improving ease of access to materials for print disabled students in Canada.

As mentioned earlier, this project has included several research components: the development of a report on the current state of alternate format academic materials delivery; a review of relevant literature on the topic; a request to service providers and organizations for submissions on the topic of access to academic materials in alternate formats; and the development and distribution of surveys to both students with print disabilities and post-secondary service providers. This final document is the culmination of 16 months of research by NEADS, and utilizes all components of our research to illustrate where gaps exist in current Canadian service models used to distribute alternate format materials to post-secondary students, and to recommend strategies that might be used to improve the system for all students.

Overview of the report

The next section of this report addresses the current state of access to academic materials in alternate formats in Canada. It describes the system of production and delivery of post-secondary texts across the country on the campuses, through different organizations and libraries. Following this report, the findings from the survey research are presented, with the student survey first and then the service provider survey. After this, we examine some of the crossover questions, and complete the analysis. A summary of organizational submissions and the submissions will be next, and finally we offer some recommendations and conclusions. An appendix with the two surveys and an annotated bibliography are the last two sections in this report.

The presentation of the survey research details the responses to every question in both surveys, and examines and reports on these responses, plus the comments provided by both students and service providers. An attempt is made to discern some of the more pressing problems and issues confronting the provision, and use, of alternate formats and adaptive technology in Canadian post-secondary institutions. Certain patterns emerge, and these are highlighted. An attempt is also made to link the student responses to those of the service providers, to contrast and compare data on identical, and different, questions. An analytical paragraph will follow each graph and table, where merited, and final analysis is presented in the section entitled "Findings and Conclusions" and "Recommendations."

ORGANIZATIONAL PROFILES

Post-Secondary Campus Disability Resource Centres and Libraries

This section of the report provides examples of alternate format services offered through disability resource centres and/or campus libraries at post-secondary institutions. We have provided summaries of the services available at a selection of institutions in different regions of the country. It is important to note that we are not citing these institutions and organizations as “model” programs but only as examples of services being offered in Canada.

These reviews summarize the services offered by each resource centre or library, as outlined in the organizations’ Websites. We don’t attempt to measure the degree to which each of these services are actually available or delivered to students with print disabilities – although our survey research provides a good measure of the successes and failures of supports for alternate format production. Rather, the information in this chapter is intended to offer an idea of some of the alternate format capabilities available through post-secondary schools across Canada.

Our research indicates that post-secondary students with print disabilities typically receive materials for their studies through disability service centres on the campuses. These centres in turn produce some alternate format documents in-house, but also rely heavily on other organizations for identification, production and delivery including CNIB, RFB&D, and provincial and national resources.

University of British Columbia

Crane Resource Centre and Library, Vancouver, BC

Website: www.library.ubc.ca/home/access/crane.html and <http://students.ubc.ca/drc>

This is the central resource for students at the University of British Columbia who have a print disability. While it is not part of the university’s library, the collection may be accessed through the library’s online catalogue. Material is offered in ‘talking book’, Braille, large print and regular print formats.

In addition to pre-recorded holdings, the Crane centre offers a recording studio for text duplicating, dedicated computers that convert text to synthesised speech, computer stations with voice synthesis and image-enlarging capabilities, a computerised Braille conversion facility, closed-circuit TV magnifiers and other resources.

University of Alberta

Services for Students with Disabilities – Edmonton, AB

Website: www.ualberta.ca/SSDS/altform.htm

The University of Alberta service centre website indicates that texts can be converted into large print, voice output and voice recognition technologies (a full list of which is available on the site URL). Students are instructed to bring in course materials for conversion into alternate formats, and must fill in paperwork indicating the content to be converted and the desired alternate format. The website stresses that “last minute requests can rarely be met.”

University of Guelph

Library Centre for Students with Disabilities – Guelph, ON

Website: www.lib.uoguelph.ca/services_for/students_with_disabilities

The Library Centre for Students with Disabilities (LCSD) works with students who are registered with the university’s Centre for Students with Disabilities (CSD) and who have been referred by their CSD advisor, to locate textbooks required in alternate formats. Students are advised to arrange a meeting with the LCSD co-ordinator at least a month in advance of classes, and to be prepared to present all reading lists for courses, to ensure ample time is given to locate or produce required texts.

The centre can order materials available in alternate formats from off-site suppliers, and has the ability to transcribe texts and other research materials in-house if they’re not available elsewhere. It also provides adaptive software – including Jaws, Zoomtext Extra and Kurzweil 1000 and 3000 – on its computers.

The University of Guelph website advises that a student's first choice of format will be sought, but that because of staffing and time limitations students may have to use another comparable format until the preferred one is found.

University of Toronto
Libraries – Toronto, ON

Website: www.library.utoronto.ca/services/disabled/special.html

The Services for People with Disabilities section of the library's website indicates that Braille, large print, audio or electronic versions of materials required for course work can be ordered through the W. Ross MacDonald School, for students registered with the university's accessibility office.

The site also advises students to check the online catalogue of Recording for the Blind and Dyslexic (which is based in New Jersey), available on the RFB&D website, to see if needed resources can be acquired through that organization. If material is available through RFB&D, students must deal with the organization on their own.

U of T law students are instructed to access the OLLIS database, which contains textbooks, casebooks, class note summaries, handouts and more information for the study of law. The site also informs law students with print disabilities that federal government publications in alternate formats may be found through the National Library of Canada website.

Queen's University

Library Services for Students with Disabilities – Kingston, ON

Website: www.library.queensu.ca

The Queen's service centre website states that "students who have access to computers with synthesized voice, character enlarging software or Braille output devices may request an electronic version of a text. If required, course material will be scanned onto disk using optical character recognition technology. Proof-reading of scanned material is also available."

Students must provide the books they need to have scanned, as well as other necessary information such as course outlines and reading lists. They must also provide the library with cassette tapes and/or disks. In addition to electronic texts, the library offers the option of having articles, book chapters, research material, workbooks and class handouts read onto tape. This service is facilitated by a group of volunteer readers. The library notes that materials recorded onto tape are recorded on four tracks, and as such can only be played on four-track tape players. A limited number of these machines are available on loan from the Special Readers' Services.

Student requests for other alternate format texts are forwarded to the W. Ross MacDonald School.

Carleton University

Maxwell MacOdrum Library - Ottawa, ON

Website: www.library.carleton.ca

Students registered with the university's Paul Menton Centre for Students with Disabilities may request to have course texts and related materials transcribed into alternate formats, such as audiotape, Braille or large print. All requests for alternate formats through the library are forwarded to the W. Ross MacDonald School, and any titles not readily available will be converted to the requested format. Students must provide a copy of the text or document to send to the W. Ross MacDonald School.

Students are advised to provide lists of needed titles, along with dates when the material will be required, as early as possible for service.

The Paul Menton Centre (www.carleton.ca/pmc) provides a Text-to-Audio service to all students with disabilities, free of charge. Students may bring in all related course materials (textbook chapters, lecture notes, etc) and have them converted to audio format on CD.

St. Mary's University

Ferguson Library for Print-Handicapped Students – Halifax, NS.

Website: www.stmarys.ca/administration/library/disabled.html

The library offers services to all post-secondary students and staff who have print-based disabilities. It offers texts on audiotape and computer disk, and has a collection of more than 850 titles.

In addition to the alternate format titles available in the library's own holdings, materials may be borrowed from other institutions in Canada and elsewhere. Materials are available to be borrowed for the duration of a course. Non-students can borrow materials for up to six months.

Books not available in alternate formats through the library or other organizations can be read onto tape by the library's team of volunteers. A Kurzweil text-scanning machine is also available.

National Organizations

This section provides summaries of some of the organizations that provide information on and/or production of alternate format materials. The organizations profiled in this section are either offered through the federal government, are part of disability service organizations with a national mandate, or are in operation outside of Canada but offer some services to Canadian students with print disabilities.

Library and Archives Canada

Website: www.collectionscanada.ca

Library and Archives Canada (LAC) has a mandate to promote equitable access to library and information resources to all Canadians. In support of that mission, LAC has developed tools and publications designed to maximize the sharing of materials in alternate format used by Canadians with disabilities and to support Canadian libraries to serve their clients with disabilities.

LAC's Union Catalogue of Alternate Formats in AMICUS contains records for works in alternate format, including works contributed as Canadian Works in Progress (CANWIP), pre-publication titles under production by Canadian non-profit institutions serving people who are print disabled or hearing impaired. Upon publication, the producers submit additional bibliographic and holdings information and the record is updated online in AMICUS. These records facilitate resource sharing among Canadian libraries by making the information available on AMICUS to help reduce costly duplicate production.

However, as noted in the publication *Fulfilling the Promise: Report of the Task Force on Access to Information for Print-Disabled Canadians* (National Library of Canada, 2000): "Unfortunately, the local alternate format collections of most colleges and universities are not reflected in AMICUS, because the libraries themselves treat these materials differently from the rest of their collections. They are not catalogued and recorded in the university catalogue, a tape of which is loaded into AMICUS on a regular basis." (p. 27)

LAC has published a manual for libraries to use to evaluate their service to persons with disabilities (The Accessible Canadian Library II), a list of publications produced through the Large Print Publishing Program (a program that ran for four years under the National Strategy for the Integration of Persons with Disabilities) and a list of federal publications available in alternative formats (1981-1996).

LAC also established and supports the Council on Access to Information for Print-Disabled Canadians, which is currently involved in the following projects with other partners:

The National Network for Equitable Public Library Service for Canadians with Print Disabilities

A Canadian Library Association Working Group was mandated to define the scope of a network of co-operating libraries and production centres, with

national support, providing alternative format publications and public library type services to Canadians with print disabilities, comparable to those received by citizens who read conventional print.

The Network would be comprised of a partnership of three distinct, but closely connected components:

1. Service Libraries to provide accessible public library type services that are appropriate to the needs of Canadians with print disabilities in their local communities
2. A National Co-ordinating Office at the federal government level to co-ordinate the Network and fund its activities
3. Production Centres to provide staff expertise and specialized resources to acquire, catalogue, produce, store and preserve alternative format collections

The final report of the Working Group, *Opening the Book*, will be completed by the fall of 2005. Funding for this initiative has been provided by LAC and the Department of Canadian Heritage. In the February 2005 Budget, the Government provided for a \$6 million contribution to assist CNIB in improving the accessibility of information and has made a commitment to support the development of the Network to enhance library services to Canadians with print disabilities.

The E-text Clearinghouse for Canadians with Print Disabilities Pilot Project

This pilot project will test the feasibility of making publishers' master e-files available to alternate format producers to improve access to information for Canadians with print disabilities. The Clearinghouse will be a critical component of the National Network for Equitable Public Library Service. Funding for the pilot will be provided by the Social Development Partnership Program of the Office for Disability Issues.

Canadian National Institute for the Blind (CNIB)

Website: www.cnib.ca

The Canadian National Institute for the Blind (CNIB) is a national, not-for-profit organization providing services to approximately 100,000 Canadians who are blind, visually impaired, or deaf/blind. The CNIB library, founded in 1906 by the country's first blind university graduate, is one of the largest producers of materials in accessible formats in the world.

The CNIB library currently contains more than 60,000 titles. A digital transformation of library services and titles is now underway, which the CNIB claims will eventually double the size of its collection. In 2002, 1.8 million items were circulated in alternate formats by the library, either delivered to clients by Canada Post or accessed online.

A service available via contractual agreement between the CNIB and post-secondary institutions or other service providers means print documents received by the CNIB can be reproduced in desired alternate formats – Braille, audio, E-text or large print – and distributed via the Internet, courier, fax or email.

Services provided by the CNIB Library are funded entirely by donations and are offered thanks to the efforts of more than 600 volunteers across the country.

Recording for the Blind and Dyslexic (RFB&D)

Princeton, New Jersey; Offices throughout the United States.

Website: www.rfbd.org

The organization started in 1948 as Recording for the Blind, to provide recorded textbooks to soldiers injured in the war. More than 70 percent of the organization's current members have been identified as having a learning disability.

The following text, from the organization's Website, explains the technology used to convert books to alternate formats, and the number of texts available through the library:

Our recording technologies have changed with the times. SoundScriber discs were long ago replaced with the high-fidelity, four-track cassettes still in use today. In September 2002, a collection of over 6,000 RFB&D's AudioPlus® digitally recorded textbooks on CD was released. Eventually, members will have access to digitally recorded versions of many of more than 98,000 titles in our CV Starr Learning Through Listening® Library. AudioPlus textbooks allow texts that might be recorded over 10 to 12 cassette tapes to be presented on one CD. These are also navigable by page or chapter, either with a special player or on a PC with appropriate software.

While institutional memberships are not available to schools and other organizations that do not have a U.S. address, individual memberships are available to those living outside the U.S. However, non-U.S. members only have access to materials in RFB&D's Classic Cassettes format, which must be played on a four-track player.

Provincial and Local Governmental and Non-Governmental Organizations

This section considers alternate format services available through both government and non-governmental organizations in various provinces across Canada. These organizations have a mandate to co-ordinate the production and provision of alternate format materials within their home province specifically.

As with the previous two sections, the information gathered here is summarized from the organizations' websites.

British Columbia College and Institute Library Services (CILS)

Website: www.langara.bc.ca/cils

CILS is a library service available free to print-disabled students and staff at publicly funded colleges and institutes in British Columbia. CILS is supported by the provincial government through a contractual agreement with Langara College, and offers texts in alternate formats, support and research materials, and reference services upon request.

CILS houses a collection of materials in audiotape, Braille, large print, digital audio, electronic texts, tactile graphics, DAISY books and computer files. When the organization does not have a requested book in its own collection, it searches other collections of alternate format materials for texts available to borrow or purchase. CILS also produces texts when it is unable to find requested materials in existing collections.

The CILS collection is searchable online, and requests for materials can be made online by alternate formats co-ordinators at provincial colleges and institutes. A detailed submission by British Columbia College and Institute Library Services (CILS) is included in this report in the appendix.

Manitoba Department of Education

Citizenship and Youth – Special Materials Services

Website: www.edu.gov.mb.ca/ks4/blind/postsec.html

The Special Materials Services (SMS) program offers a collection of titles, comprised mostly of school texts. Texts that are requested but not available through the onsite collection are searched out and made available through inter-library loan sites across Canada and the United States. Books are loaned, free of charge, for the school year to any student attending school in Manitoba.

Students registered as being visually impaired or who have certifiable print disabilities, and who attend Manitoba colleges or universities, have access to Braille, large print and electronic format texts. Texts are borrowed for those who

are visually impaired and print disabled, and production of texts for school is extended to students with visual impairments.

Students, special needs co-ordinators and post-secondary instructors work with the SMS program's co-ordinator of post-secondary alternate format textbooks. All parties involved in a student's education are asked to submit lists of required textbooks as far in advance as possible.

The SMS program website includes an online order form for required textbooks, as well as a searchable database of the onsite SMS collection.

W. Ross MacDonald School for the Blind
Brantford, ON

Website: www.wrossmacdonaldschool.on.ca

The school, which opened in 1872, serves Ontario students who are blind and deaf-blind. In 2002, more than 200 students attended the school.

The school also provides resources to help other students in the province who are blind and deaf-blind, as well as those with learning and physical disabilities who cannot read printed texts. It has co-ordinated the provision of alternate format texts for students with print disabilities in Ontario since 1983, offering a centralized transcription service.

Each school in Ontario is asked to assign a contact person, working either within the school library or the disability resource centre, to co-ordinate placing textbook orders for students.

Materials that can be transcribed into alternate formats include: course texts, articles, course packs or workbooks and chapters or parts of chapters of books, up to 120 pages. Course handouts and examinations cannot be transcribed by

the service. Alternate formats available include audiocassette, E-text, Braille and large print.

The amount of time required to transcribe a text into Braille through W. Ross MacDonald is considerable (a 500-page text converted into Braille typically takes six to eight months). Therefore, requests for original texts in Braille are only considered for mathematics, statistics, and computer science and language texts. Braille is also the standard format provided for students who are deaf-blind.

The school asks that orders be placed at least one month before the start of a course, in order to facilitate an order being filled on time, and given the volume of requests received.

CONSTRUCTION AND DISSEMINATION OF THE SURVEYS

Objectives

The central objective set out at the start of this research project was to gather information on the accessibility, availability, timeliness and quality of educational materials in alternate formats for post-secondary students with print disabilities. The surveys used in our research were constructed with this objective in mind. The questions were formulated to help NEADS identify gaps in the process of producing alternate formats for students. They were also designed to allow respondents to suggest ways in which the process could be improved; thus informing recommendations meant to streamline the delivery and improve the quality of these materials.

Production

The project was developed by the National Educational Association of Disabled Students in close consultation with the Council on Access to Information for Print Disabled Canadians and the Learning Disabilities Association of Canada. Other partner groups were then invited to join a steering committee. In consultation with the NEADS board of directors and steering committee it was decided to start developing the Access to Academic Materials surveys in the Winter of 2004. The goals of the project were to understand the current state of alternate format production in Canada and the opinions of students and service providers regarding the standards, quality, and levels of effectiveness of the various technologies and services for students with print disabilities in post-secondary institutions in Canada. NEADS hired a consultant, Dr. Liam Kilmurray, to construct the surveys and to produce a statistical package for their analysis. The surveys for this project built upon the 1999 NEADS Survey, *Working Towards A Co-ordinated National Approach to Services, Accommodations and Policies for Post-Secondary Students with Disabilities: Ensuring Access to Higher Education and Career Training*, but focused specifically on students with print disabilities. The steering committee would aid in the construction of the survey. The membership of this steering committee represents a core of expertise in the area of library services and alternate formats and technologies. It includes representation from students with disabilities, service providers, and consists

of stakeholder organizations. The steering committee provided invaluable advice regarding the construction of the project surveys.

The steering committee met on several occasions with the national co-ordinator and the consultants to identify areas of concern and interest, and to clarify questions and definitions. It was through this process that the surveys emerged. Also invaluable in the process was an online project forum that enabled participants (the steering committee, national co-ordinator and consultants) to exchange ideas and information. An essential element in the construction of the surveys was the test piloting undertaken. Six students and five service providers participated in this aspect of the research. The surveys were completed by these people and returned with comments, and from this some changes were made and final versions of both surveys were developed. Alternate format student questionnaires were professionally produced by T-Base Communications.

Dissemination

Once the surveys were finalized, the NEADS list of disability service providers at post-secondary institutions was utilized to contact schools with regard to participation in the project research. The contact person at the various institutions (usually the service provider, occasionally the librarian) was telephoned and asked to provide the numbers of students with print disabilities at their institution. The contact person was also asked to provide the numbers of particular formats that they would like to receive the survey in. For example, they were asked to state how many Braille, large print, diskette, or cassette tape versions of the survey they would need. From this, and after a round of follow up phone calls and contacts, the numbers of various formats for the surveys were collated and a master list was constructed from which the surveys would be mailed out.

Over a period of several weeks, staff at the NEADS office at Carleton University organized a mass mail-out of surveys to various institutions. The objective in the initial phone-around was to enlist the participation of service providers at the schools to complete the service provider questionnaire and to ask them to distribute student surveys to those students with print disabilities registered at their offices. Students and

service providers were asked to complete the survey within one week of receiving it. Further, online versions of both surveys was also constructed and made available through the NEADS website.

While waiting for the surveys were to be returned, the process of constructing the statistical files for eventual analysis of the data proceeded. The program SPSS was chosen as the main method with which to enter and analyze the data. Once the surveys were returned, the data was entered, and the consultant constructed several presentations of preliminary data to iron out any discrepancies that emerged. The final leg of the journey was the production of a final report, in which the statistical data would be represented in chart and graph format and the 'open-ended' and commentary information were analyzed and used to complement the statistical findings of the final report.

Methodology

The methodological approach to this survey was straightforward: and surveys were sent out on a convenient sample basis. That is, a list of institutions across Canada was constructed from NEADS' disability service provider list, the service providers (or librarians) were contacted and asked how many surveys they felt would be needed for the participation of the students within their institution who fit the profile of print disability. From the numbers supplied by the colleges and universities, and the breakdown of survey types requested (i.e. Braille, large print, cassette, French language, etc.) packages were assembled and sent directly to the service providers for dissemination.

With respect to the response rates to the surveys, it should be noted that this methodology contained the risk that an overestimation of the target student population would occur. Also, there were instances where an institution simply requested some of each available survey format with, apparently, the intention of disseminating these to students upon the request of the relevant format. This resulted occasionally in a larger mail out of surveys than could ever be responded to from the relevant institutions. This is one of the inevitable results of a convenient dissemination methodology. While it does

not affect the validity of the responses received, it does alter the response rate when counted against those surveys mailed out.

General Overview

A total 2,613 surveys were sent out to both the students and the service providers. Forty-nine institutions participated in the student survey, with 130 respondents, and 55 institutions participated in the service provider survey, with 67 respondents, and two who did not identify their institution.

The total number of responses received to both of the 'Access to Academic Materials' surveys was 197¹. Of this number, 67 were from service provider surveys returned and 130 student surveys. For both surveys, we received responses from universities, CEGEPs, technical vocational institutions and community colleges. Seven identified themselves as university colleges (primarily from BC). These institutions ranged from the largest universities to the smallest community colleges. The responses to the student survey were received from 49 separate institutions. For the service provider survey, 55 separate institutions were represented, two were unidentified.

Students from Ontario represented the largest percentage of respondents (48.46% of respondents). This was followed by Alberta (13.08% of respondents), Quebec (10.77% of respondents), and British Columbia (9.23% of respondents). The highest number of service provider responses came from Ontario (25.76%), followed by Quebec (18.18%), British Columbia (16.67%), and Alberta (15.15%).

Limitations of the Research

As with all surveys, the limits of what the research is able to say are bounded by the amount of information provided by the respondents. Statistical analysis can combine the responses of many people and compare, contrast and crosstab various areas of information. However, in the final analysis of the survey research this study is limited by both responses provided and questions asked. One of the issues to emerge from the

¹ We received a further 5 surveys from students and 2 from Service providers after the deadline, which would have made the total for all responses 204. These were not included in the database.

student profiles was that there were more students reporting a learning disability (47%) than those who reported a blind/visually impaired disability (21%). The higher number of students with learning disabilities was also evidenced in the CILS report, where some two-thirds of students have a learning disability, and one-third a visual disability (see Appendix 2A 'student profiles'). A similar situation prevailed in the 1999 NEADS survey, where students with learning disabilities outnumbered those with print disabilities by a ratio of over two to one. Having said that, the identified preferred formats by student respondents were affected by the types of disabilities represented in our student respondent group. While students with learning disabilities and blind/visually impaired students may often use and benefit from the same types of electronic format materials, students who have learning disabilities almost never use Braille texts unless they are also blind.

In addition to this, there were many questions in both surveys where the respondent could check more than one box, that is report more than one response. For example, under question 12 in the student survey (please state the nature of your disability/disabilities), the respondent might have a medical disability *and* a visual disability, or a learning disability *and* a mobility disability. In such cases, the response rate to the question may be higher than the number of respondents, and to represent this statistically we have added up the total responses and made each category a percentage, as was the case with question 12 of the student survey. The end result of allowing multiple responses is that we can get closer to the identification of the respondents, who are not forced to choose between categories in an either/or scenario, but who can identify a range of disabilities, or technologies, that best describe them and their needs. Despite any limitations in this survey, the reported number of students with disabilities attending service provider respondent institutions is 22,250. Students with print disabilities totalled 4,218. Therefore, the survey data is based on a very broad population.

STUDENT SURVEY

Student Profiles

The student survey, included in the appendix of this report, contained 34 questions. It was divided into four sections: Demographic, Disability, Accessibility, and General. We received completed surveys from 130 students. Males accounted for 49 (38.28%) responses, women for 78 (61.72%). Two students did not report their gender. The average of the student respondents was 27.74 years of age. The youngest respondent age was 18, and the oldest, 75. The majority of respondents came from Ontario, Alberta, Quebec and British Columbia.

Students were asked to state the nature of their disability, and they could provide more than one response. 171 responses (from 130 students) were received, and of these 81 (47.36% of 171) reported a learning disability, 36 (21.05%) were blind or visually impaired, 14 (8.19%) had a mental health disability, 10 (5.85%) a neurological disability, nine (5.26%) were mobility impaired, and nine reported a medical disability. Two (1.17%) students were deaf or hard of hearing, and finally, 10 (5.85%) students answered "other".

By province, the number of students with disabilities (reported in question three of the service provider survey) ranges from a high of 8806 in Ontario, to a low of 15 in Newfoundland and Labrador. By province, the number of students with print disabilities ranges from a high of 1086 in Alberta, to a low of five in Newfoundland & Labrador.

Among these 130 respondents for the student survey, 73 (56.58%) attend a university, 35 (27.13%) attend community college, and for CEGEPs and technical/vocational institutions the numbers are the same, eight (6.2%). Finally, five (3.87%) student responses were received from students attending other institutions - primarily university colleges in BC. University colleges are colleges with limited degree granted ability, generally in conjunction with a university.

The two most common types of qualification sought were Bachelor of Arts, with 59 (46.09%) respondents indicating such a course of study, and certificate/diploma, which fifty-two respondents (40.62%) were pursuing. Eight students were pursuing a Masters of Arts (6.25%), and nine students (7.03%) sought a variety of other qualifications such as electrical journeyman, academic upgrading, or certification at a technical college. Ninety-seven (74.62%) were registered as full-time, 30 (23.08%) as part-time, and three (2.31%) as "other". Seventy-four (57.18%) students received financial aid, whereas 54 (42.19%) did not. Twenty-nine (37.66%) state that this funding is sufficient to support access to academic materials in an acceptable alternate format, while the number of students who report this funding is either 'partially' sufficient, is 'not' sufficient, or who 'do not know' are equal – 16 (20.78%). Those who reported their funding was either 'sufficient' or 'partially' sufficient indicated that their funding supported computer technology or software, adaptive technologies in general, tutors, or specific alternate formats such as Braille or books on tape.

The most reported aids and services used were academic accommodations, adaptive technology, alternate formats, and tutors. The most common types of formats required for academic materials were E-text, audio-analogue, audio digital, MP3 and large print. The most common preferred were E-text, audio-analogue, audio digital, large print, and books on tape. The most common provided formats were E-text, audio-analogue, audio digital, PDF-text, Braille and large print. Many students mentioned Kurzweil software as a method of scanning printed materials for reading.

It should be noted here that we provided a detailed, specific list of format choices for respondents. Digital audio is an umbrella term for MP3, DAISY and other digital audio formats. Please see page 51 for definitions. The most common type of disability reported by students was a learning disability (47.36%). Of these respondents, the most common aids and services used were academic accommodations, adaptive technologies, alternate formats, and a tutor. For the second most frequent type of disability, blind or visually Impaired (21.05%), the most common aids and services were in the same order; academic accommodations, adaptive technologies, alternate formats, and a tutor. These are some of the highlights from the student survey; we turn next to the responses.

Student Survey Details

Section A: Demographic Information

The first section of the student survey contains 11 questions, concerning demographic data such as age, gender, province, institution type, academic program and standing.

1. What is your year of birth?

The average age of respondents (accurate to within one year) is 27.7 years of age.

The range of ages for students is great. Student respondents gave birth years from 1930 to 1987, with the majority in the 1983-1985 period. The highest numbers by year are 18 (1984), 16 (1983), and 15 (1985).

	Male	Female	Total
1930		1	1
1941	1		1
1942	1		1
1945	1		1
1954		1	1
1955	1	2	3
1956		1	1
1957		1	1
1958		1	1
1961	1	1	2
1964	1		1
1965	1	1	2
1966	1	1	2
1967	1	1	2
1968	1	1	2
1970	1	1	2
1971	1		1
1972	1	1	2

	Male	Female	Total
1974		1	1
1975	1	3	4
1976		3	3
1977	2	4	6
1978	1	1	2
1979	2	1	3
1980	2	6	8
1981	3	8	11
1982	4	4	8
1983	10	6	16
1984	7	11	18
1985	2	13	15
1986		4	4
1986			0
1986			0
1986			0
1987		1	1
TOTAL			127

The following columns list the years of birth and ages of the respondents.

1981	2005	24
1981	2005	24
1981	2005	24
1981	2005	24
1981	2005	24
1982	2005	23

1984	2005	21
1984	2005	21
1984	2005	21
1984	2005	21
1985	2005	20
1985	2005	20

1967	2005	38
1967	2005	38
1968	2005	37
1968	2005	37
1970	2005	35
1970	2005	35

2. Gender

The gender breakdown of respondents to the student survey is as follows: males 49 (38.28%), females 79 (61.72%).

It has been demonstrated in various surveys that women respond to surveys more frequently than men do.

It is also the case that women outnumber men in terms of a) general population, b) student population, and c) students with disabilities enrolled in Canadian post-secondary institutions. The 1999 NEADS survey revealed a response rate of 59.7% for women (207/349). Therefore some difference in gender response was to be expected. Nonetheless, that 61.72% of the student respondents should be female is still a surprisingly high number. Further research may elucidate a gender difference in terms of those students who regularly communicate with the disability service office on campus, and therefore are exposed to surveys that are advertised and distributed. Enrolment at universities and community colleges is almost twice as high as males. There are seven females from CEGEPs and one male, but there were six males in technical vocational and two females. The females who attend university, however, make up 60% of all female respondents, whereas for males this figure is 48%. Furthermore, community college females are 28% of all females, while males attending community college account for 26%.

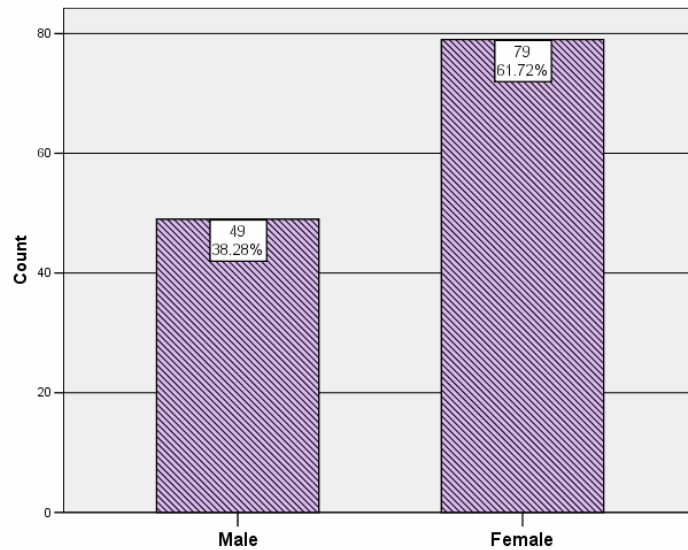


Chart 1: Gender of respondents

	Gender	Qualification sought				Total
		Cert.	BA	MA	Other	
	Male	22	21	1	4	48
	Female	30	37	6	5	78
	Total	52	59	7	9	127

Table 2. Gender & Qualification sought Crosstabulation

Students seeking a BA make up 46.46% of the respondents. Those seeking a certificate comprise 40.94%, and MA students are equal to 5.5%. The other category accounts for 7.08%.

Of the 128 responses to the question relating to gender as compared to disability type blind or visually impaired our sample showed the following representations:

Blind/visually		Percent	
Gender	Male	16	12.5
	Female	18	14.06
Total		34	26.15% of N (130)

Table 3. Gender & blind/visually impaired Crosstabulation

These are quite similar numbers in total, but when compared to the overall gender breakdown the 16 males represent 32.65% of all male responses. The 18 females reporting a blind/visually-impaired disability represent a lower overall percentage of female participants – 22.78%.

3. Do you require or use academic materials in alternate formats to pursue your studies?

This question was required to be answered in the affirmative for the respondent to continue the survey; thus the results are 100%.

4. What type of post-secondary educational institution do you attend?

In response to question four, the representation by type of school was as follows, by number of students and percentages: university 73 (56.59%), community college 35 (27.13%), CEGEP 8 (6.2%), technical/vocational 8 (6.2%), other 5 (3.8%). Over twice as many students are attending university compared to community college amongst the respondents to our survey. This reveals that the majority of students are accessing materials in alternate formats as provided by university disability service centres or libraries, which are the main organizations used to support this community.

“Other” is comprised of 5 respondents who chose not to select the categories provided in the survey and who report that their institution is: college of applied arts and

technology, institute of technology and advanced learning, college, university/college collaborative program, college.

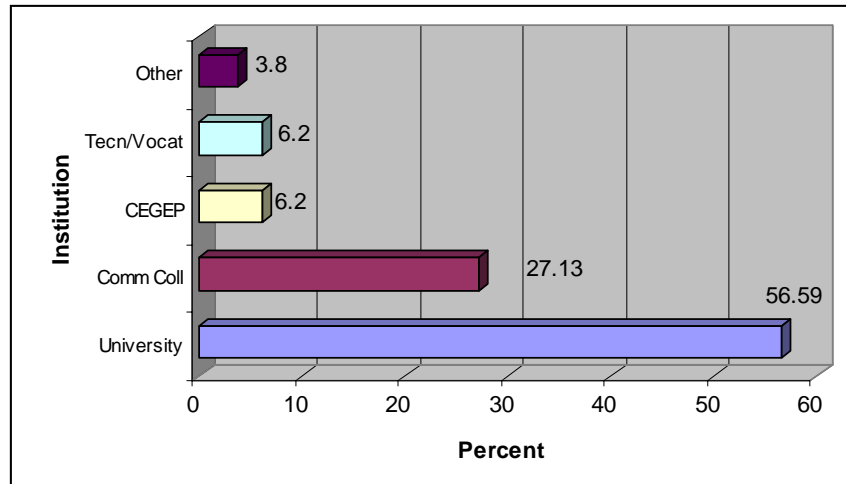


Chart 2: Type PSEI attended

The gender breakdown of respondents by type of institution attended is expressed in Table four.

Type PSEI ²	Gender		Total
	Male	Female	
Univ	24	47	71
Comm Coll	13	22	35
CEGEP	1	7	8
Tech Voc	6	2	8
Other	5	0	5
TOTAL	49	78	127

Table 4. Type PSEI, Gender Crosstabulation

² PSEI stands for Post-Secondary Educational Institution.

5. What is the province/territory of the post-secondary educational institution that you attend?

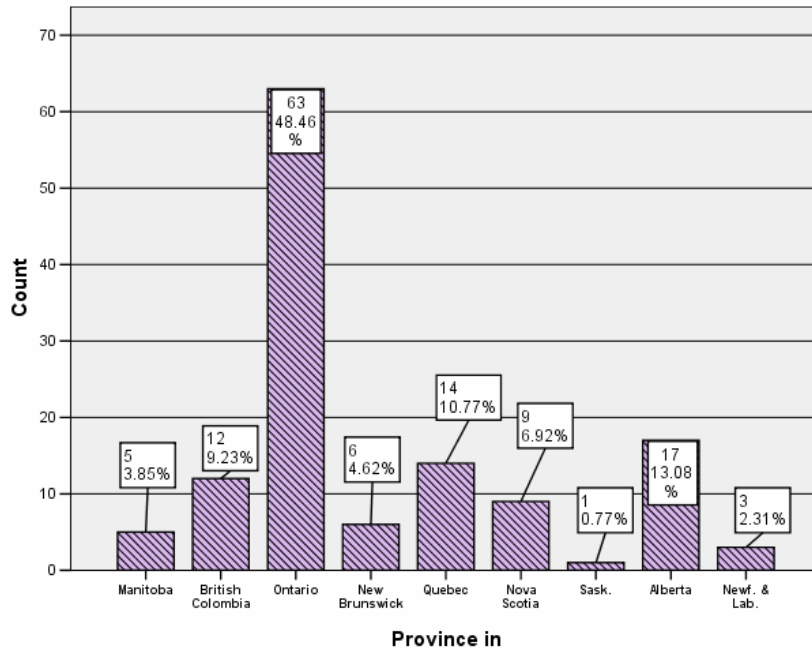


Chart 3: Province of institution

Student respondents were represented from across Canada. The breakdown by number is the following: Manitoba - 5, BC - 12, Ontario - 63, New Brunswick - 6, Quebec - 14, Nova Scotia - 9, Saskatchewan - 1, Alberta - 17, Newfoundland and Labrador – 3.

Ontario alone accounts for 48.46% of all respondents. The other larger responses were: Alberta – 13.08%, Quebec – 10.77%, and BC – 9.23%. Between the four largest responding provinces, students account for 81.54% of all survey participants.

6. What province are you a permanent resident of?

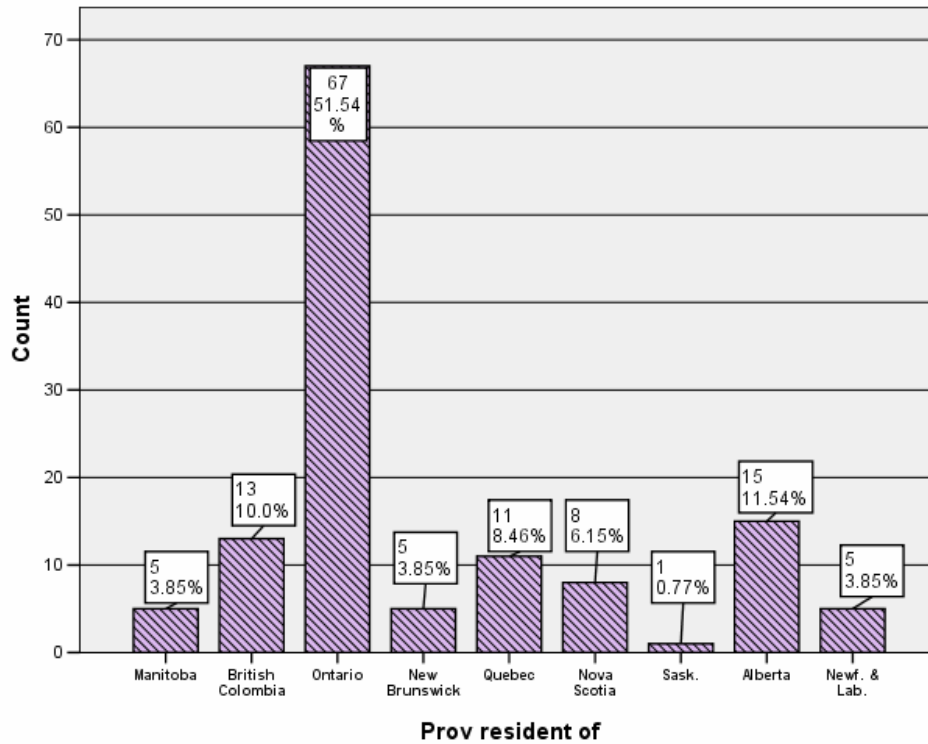


Chart 4: Province resident of

Again, there is a broad range. Students were permanent residents of: Manitoba - 5, BC - 13, Ontario - 67, New Brunswick - 5, Quebec - 11, Nova Scotia - 8, Saskatchewan - 1, Alberta - 15, Newfoundland and Labrador - 5. Open-ended responses provided for this question indicate that one respondent is a permanent resident of New Hampshire, United States, and another is a permanent resident of France.

7. What type of educational qualification are you currently pursuing?

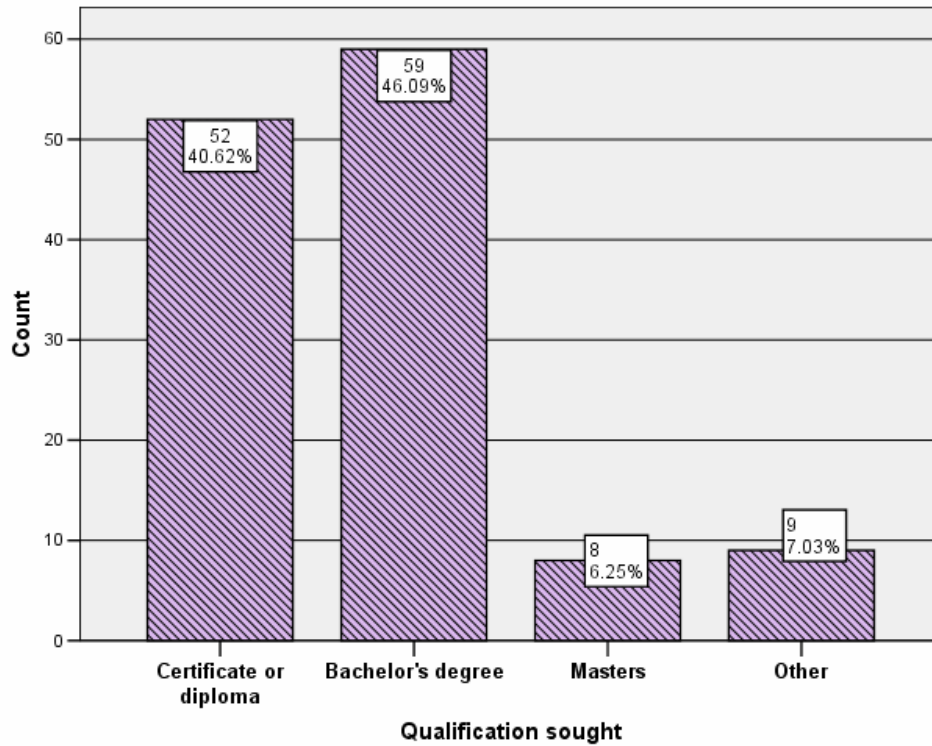


Chart 5: Qualification sought

The question reveals a majority of those are planning to complete a B.A. (46.09%). That is only a slight majority however, as 40.62% are currently seeking a certificate or diploma. Those in Masters programs represent 6.25% of the respondents.

Under the category of "other", two respondents wrote that they are currently pursuing 'academic upgrading'. Two students are pursuing electrical journeymen certification at technical college; one student indicated they were unable to gain admission to a program and were therefore taking general courses "to help with my future goal", one student is pursuing qualifications to become a teacher; and another indicated pursuit of a concurrent double major Bachelor's degree, in education and humanities.

8. As of September 1st, 2004, what year of your program have you completed?

Year of program:

- 18 (13.85%) Less than 1 year
- 40 (30.77%) 1 year
- 36 (27.69%) 2 years
- 22 (16.92%) 3 years
- 7 (5.38%) 4 years
- 7 (5.38%) More than 4 years

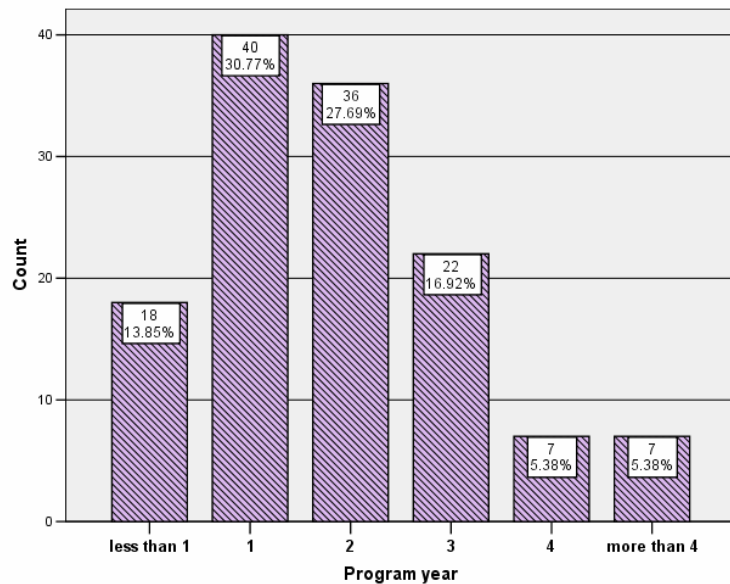


Chart 6: Year completed

Those students enrolled less than one year, one year, and two years account for 72.3% of all respondents. This is an important statistic, as it may impact on the extent of

knowledge regarding adaptive technology and academic access issues. It may be argued that students become more aware of services and programs available to them as they advance in their field of study. For example, as expected, students in their earlier years rely more on family support for programs and services outside of their institution than do those enrolled in later years of their program.

		Family support		Total
		Yes	No	
Year	<1	7	11	18
	1	17	21	38
	2	12	23	35
	3	6	13	19
	4	2	5	7
	>4	1	6	7
Total		45	79	124

Table 5. Family support and student standing

Furthermore, a higher rate (despite the higher enrolment numbers) of those students in their earlier years indicate they are not receiving their academic materials in a timely

manner. The responses to this question in the survey, and the data we have generated, highlight the crucial role of information transmission and the central part that must be played in this process by the various disability service centres in Canada's post-secondary institutions. This question raises issues of effectiveness and assertiveness; that is, whether students with print disabilities in the early stages of their studies know how to request the formats they require.

	Program year						Total
	-1	1	2	3	4	4+	
Always	9	18	10	7	2	3	49
Sometimes	4	14	15	12	5	3	53
Never	2	2	5	0	0	0	9
N.A.	3	3	4	1	0	1	12
Total	18	37	34	20	7	7	123

Table 6: Program year and receipt of materials in a timely manner

9. What is your field of study?

There was no single dominant field of study reported by the participants. A range of fields of study was provided. Categories listed on the chart include: Social Sciences - 5 (3.94%), Psychology - 11 (8.66%), Women's Studies - 1 (.79), Human Relations - 1 (.79)

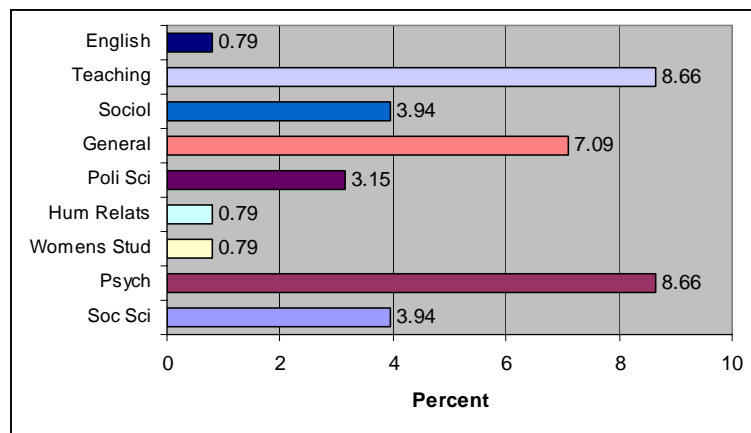


Chart 7: Field of study

Political Science - 4 (3.15%), General - 9 (7.09%), Sociology - 5 (3.94). The category "other" is not included in the chart, as it accounted for 79 (62.2%) of the responses. Survey respondents who chose "other" listed the following courses of study. (Bracketed numbers beside a program/course indicate multiple respondents identifying with that classification).

Business administration (5)
 Electrician/electrical apprentice (4)
 Early childhood education (3)
 Geography (3)
 Religious studies (3)
 Social services worker (3)

Administrative studies (2)
 Computer science (2)
 Fine arts (2)
 Police foundation (2)
 Social work (2)
 Upgrading (2)

The following courses of study were listed once:

Disability manager	Child studies	Environmental studies
Education and disability services	Child and Youth Studies (Master's degree)	Gender equality and social justice
Office administration	Journeyman machinist	Correctional services
Criminal just/policing	Nursing	Communication sciences
Welding	Geography and religion	Law & Society
Computer programming	Graphic design	Science
Preparatory health sciences	Environmental technician	Civil engineering
Information technology support services	Health and physical education	Heavy equipment technician
Computerised accounting technology	Recreational-leisure services	Public administration (Master's degree)
Biology	Sports administration	Administration
Pharmacy technician	English	Human service worker
Community outreach worker	Emergency medical responder	Recreation and leisure activities
History	Cinema and communication	Developmental service worker
Media studies		

10. Are you enrolled as a:

When answering this question, student respondents indicated their enrolment type as: 97 (74.62%) Full-time student, 30 (23.08%) Part-time student, 3 (2.31%) Other.

It should be noted here that students with disabilities are often considered to be studying full-time if they are taking 60% of a full course load. In fact, this is the criterion applied to students with permanent disabilities under the Canada Student Loans Program.

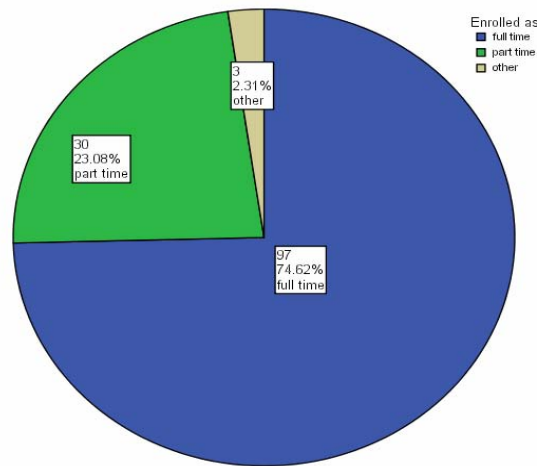


Chart 8: Enrolment status

The breakdown for enrolment by province is as follows:

		Full Time	Percent	Part Time	Percent	Other	Percent	TOTAL
Province	MB	2	40	1	20	2	40	5
	BC	6	50	6	50	0	0	12
	ON	52	83	11	17	0	0	63
	NB	4	67	2	33	0	0	6
	QC	12	86	2	14	0	0	14
	NS	7	78	2	22	0	0	9
	SK	1	100	0	0	0	0	1
	AB	12	71	4	24	1	6	17
	NL	1	33	2	67	0	0	3
Total		97	75	30	23	3	2	130

Table 7: Province in & Enrolled as Crosstabulation

11. Did you choose this school on the basis of:

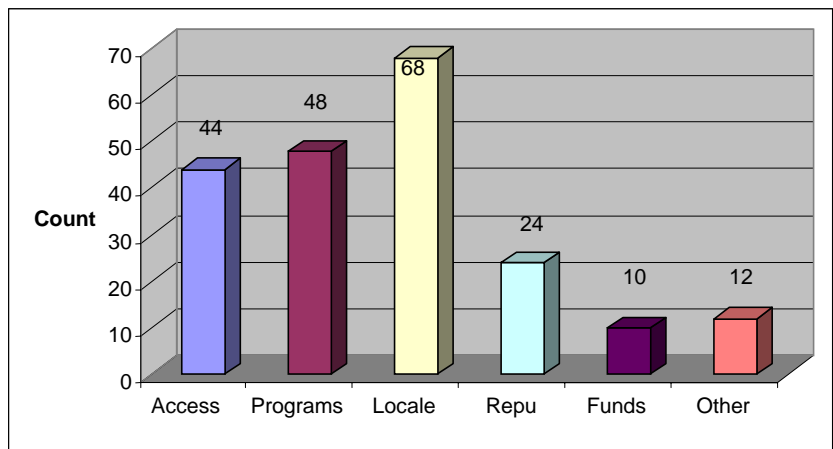


Chart 9: Choice basis for school

This question solicited multiple responses – the students could check more than one box. From the responses, location was the most common (68), followed by academic programs offered (48), accessibility (of services offered) (44), then reputation (24), scholarship or grant (funding) (10), and finally other (12).

Among the open-ended responses given, two students wrote that they chose their school based on its size. One said it was because of lower living and course costs, one chose the school based on proximity to friends and family, and one said, “Started with a placement.” Finally, one respondent noted that the school they chose was the “only school that could provide equipment and services.” It is interesting to note that while location of the college or university was most important to our student respondents, accessibility and programs offered scored very well. Clearly, our respondents require an accessible education with programs of study which meet their interests and aptitudes. One can surmise that many students with disabilities still live at home and have limited opportunity to move, making location a priority.

Section B: Disability information

This section is comprised of three questions addressing disability type, aids and services used, and funding.

12. Please indicate the nature of your disability/impairment:

Respondents could indicate more than one category for this question. The highest response was from students reporting a learning disability (81), followed by blind/visually impaired (36), mental health disability (14), mobility impaired (9), neurological disability (10), deaf/hard of hearing (2), medical disability (9), and lastly other (10).

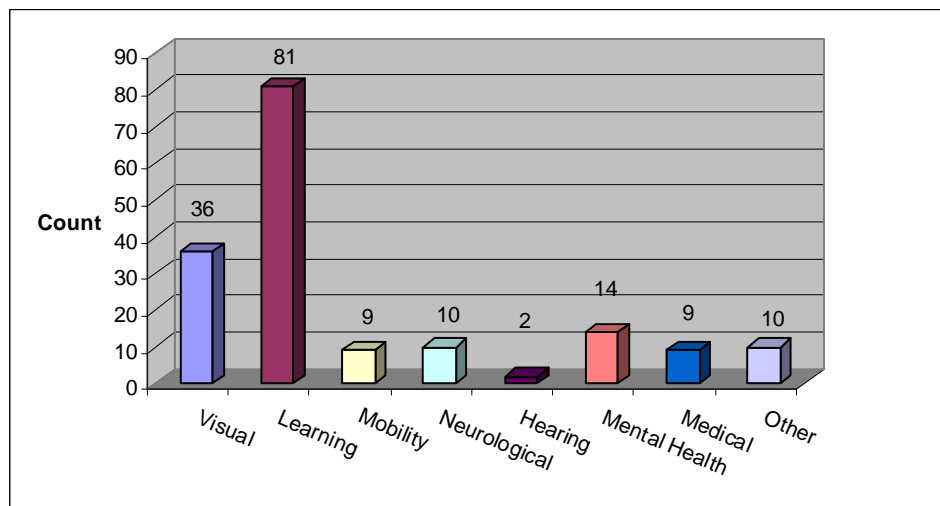


Chart 10: Disability/Impairment

Of the five student respondents who checked “other” for this question, one identified as quadriplegic, one noted dyslexia, one student indicated a processing disorder, one wrote “speech/communication,” and one student indicated “temporary mental issues (stress), and mono.”

Disability Profile

The responses to the previous questions regarding disability type are central to this report. The following list of tables presents further analysis outlining the type of disability by type of institution.

Of the 81 students reporting a learning disability, 55.55% attended university, 27.16% a community college, 8.64% a technical/vocational institution, 4.93% attended a CEGEPs, and 3.7% reported other as the institution they attend.

University	45
Comm Coll	22
CEGEP	4
Tech Voc	7
Other	3
Total	81

Table 8. Type PSEI & Learning Disability Crosstabulation

Of the 35 students who reported that their disability was blind/visually impaired the results for percentages are as follows: university 54.28%, community college 22.85%, CEGEP 11.42%, technical/vocational 5.71%, and other 5.71%.

University	19
Comm Coll	8
Cegep	4
Tech Voc	2
Other	2
Total	35

Table 9. Type PSEI & Blind / Visually Crosstabulation

Nine students reported a disability relating to mobility. Of these, 66.66% attended a university, and 33.33% attended a community college.

University	6
Comm Coll	3
CEGEP	0
Tech Voc	0
Other	0
Total	9

Table 10. Type PSEI & Mobility Crosstabulation

Ten students reported a neurological disability. Of these, 90% attended university, and 10% attended community college.

University	9
Comm Coll	1
Cegep	0
Tech Voc	0
Other	0
Total	10

Table 11. Type PSEI & Mobility Crosstabulation

Just two students identified their disability as relating to being deaf or hard of hearing. One attended community college, and one attended a CEGEP.

University	0
Comm Coll	1
Cegep	1
Tech Voc	0
Other	0

Table 12. Type PSEI & Deaf/Hearing Crosstabulation

Fourteen student respondents reported a mental health disability. A huge 71.42% of these were in attendance at a university. 14.28% attended a community college, while 7.14% attended a CEGEP, or an institution defined as “other”.

University	10
Comm Coll	2
Cegep	1
Tech Voc	0
Other	1
Total	14

Table 13. Type PSEI & Mental Health Crosstabulation

Those who reported a medical disability were small in number, with nine respondents in total. Of these, 55.55% attended a community college (the most commonly attended institution type by respondents of all disability types), and 33.33% attended university. 11.11% attended “other”.

University	3
Comm Coll	5
Cegep	0
Tech Voc	0
Other	1
Total	9

Table 14. Type PSEI & Medical impairment Crosstabulation

Those who reported that their disability type was 'other' attended the institutions in the following order: university 50%, community college 40%, and other institution 10%.

University	5
Comm Coll	4
Cegep	0
Tech Voc	0
Other	1
Total	10

Table 15. Type PSEI & Other Crosstabulation

13. On a day-to-day basis, what kinds of aids or services do you use to accommodate your disability?

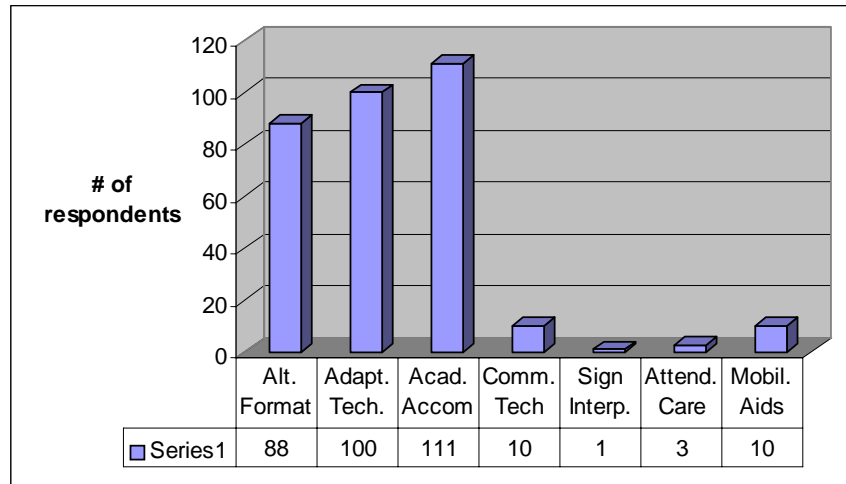


Chart 11: Aids and services used, 1

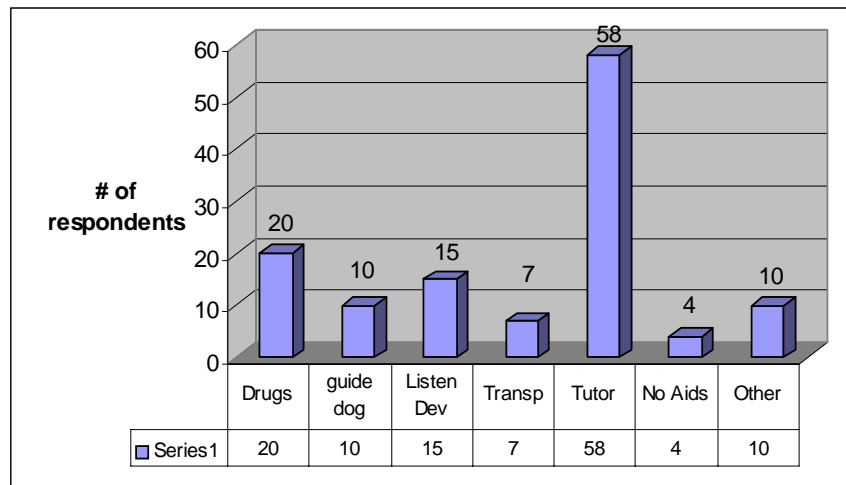


Chart 12: Aids and services used, 2

Question 13 is critical to the access issues facing our student respondents. We received the following responses by type of accommodation.

- 111 Academic accommodations
- 100 Adaptive technology
- 88 Alternate formats
- 20 Drugs and medical supplies
- 59 Tutor
- 15 Assistive listening device
- 10 Communication technology
- 10 Mobility aids
- 10 Guide dog/White cane
- 10 Other
- 7 Specialized transportation systems
- 4 No aids or services used
- 3 Attendant care services
- 1 Sign Language interpreter

Services identified under “other” included two students who use Kurzweil 3000. One student indicated use of Kurzweil 1000 and JAWS, one mentioned a note taker, and another used an assistant. One respondent listed “study groups, stress management groups, tape recorder.” The next two tables show types of aids and services required by our two largest respondent groups.

Aids & Services	Blind/Visually Impaired
Alternate formats	30
Adaptive tech.	31
Acad. Accom.	31
Commun tech.	4
Sign language	1
Attendant care	0
Mobility aids	2
Drugs medical	4
Guide dog/cane	9
Listening device	4
Special transport	2
Tutor	14
No aids	1
Other	4

Table 16. Aids & services by Blind / Visually Impaired

Table 17. Aids & services by Learning Disability

Aids & Services	Learning Disability
Alternate formats	50
Adaptive tech.	62
Acad. Accom.	71
Commun tech.	6
Sign language	0
Attendant care	1
Mobility aids	5
Drugs medical	11
Guide dog/cane	2
Listening device	10
Special transport	4
Tutor	42
No aids	4
Other	6

14. Do you currently receive financial aid in the form of a scholarship, student loan/grant, or academic award?

Seventy-four (57.18%) students indicated they receive financial aid for their studies, whereas 54 (42.19%) noted they receive no funding. Twenty-nine (37.66%) state in a follow-up question that this funding is sufficient to support access to academic materials in an acceptable alternate format. The number of students who report this funding is either 'partially' sufficient, is 'not' sufficient, or who 'do not know' are equal – 16 (20.78%). Overall, 4.2 out of every 10 students, or just less than one in two, receive financial aid for post-secondary education.³

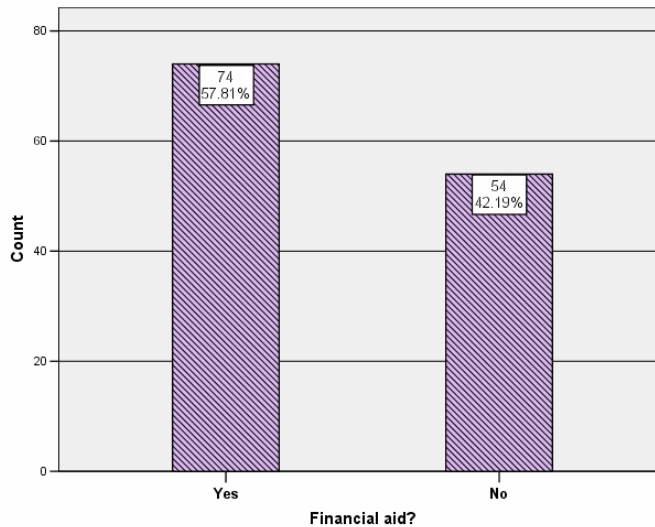


Chart 13: Receipt of financial aid

14.b) Identify the scholarship, student loan/grant, or academic award by name:

Of the financial sources listed, most students receive funding from national or provincial loan or grant programs. The Ontario Student Assistance Program (OSAP) led with 16 mentions. Three also mentioned Ontario’s bursary for students with disabilities, which is an OSAP program, while one student indicated receiving the province’s technology bursary. Besides the Ontario program, provincial student loans were mentioned in seven other instances.

The Canada Study Grant, which is part of the Canada Student Loans Program, was second-most popular, being mentioned six times, followed by the Canada Student Loans Program with five mentions. The Government of Canada’s Employment Assistance

³ No assumption should be made that *all* students with disabilities, of whatever type, actually apply for, or require, financial aid.

for People with Disabilities (EAPD) program was listed as a source for three students, while two mentioned the federal Millennium Scholarship. Two respondents simply indicated “disability bursary.”

The following were other programs as listed by respondents. Please note, we are providing the responses given to us, recognizing that some funding programs are the same or related to one another.

- Sydney Credit Union Scholarship
- Canadian Disability Grant
- York Faculty of Arts bursary
- Government of Alberta Disability Supports
- Action council training allowance (NS)
- First Nations grant
- Workers’ Compensation
- Joe Beaton Memorial Scholarship
- UNB pays for the tuition of visually impaired (legally blind) students
- Student loan
- Queen Elizabeth 2
- Coca-Cola scholarship
- Gretzky scholarship
- HRDC
- Justin Eves
- Disability grant and student loan
- Learning disability bursary
- Bursary for students with high needs
- Grant for students with Permanent Disabilities
- Student loan at bank
- Student loan grant
- DRES
- CIBC – youth vision scholarship through Big Brothers and Sisters
- The provost’s award
- Student loan and disability grant
- Fellowship from the university
- BSWD

14.c) Does this funding support access to academic materials in an acceptable alternate format?

Seventy-four students reported (in the first part of this question) that they received financial support for these studies. Seventy-seven respondents to this part of the question reveal the following statistics: 32 report that the funding is either partially supportive or not at all. Just 29, from a total response rate of 128 (question 14), report that funding supports access to academic materials in an acceptable alternate format.

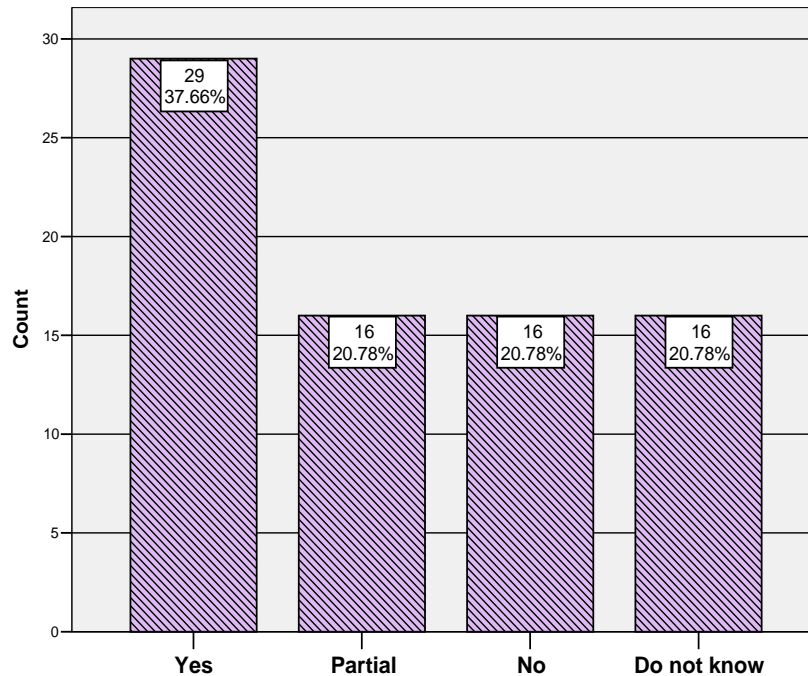


Chart 14: Funding and support for alternate format materials

If yes, or partial, what does the funding support?

Of the responses provided to Question 14, five students indicated their funding supports computer technology and/or software, while four others mentioned funding for adaptive technology in general. Three people noted they cover the cost of tutors with this funding, while three mentioned specific alternate formats (Braille, texts on tape, and books). Answers provided twice include books, note-takers, cassette recorders and tuition.

Other answers provided were:

- Transport
- Equipment
- Reader
- Kurzweil/Scanner
- Visual aids
- Learning assistant
- Counselling
- Exam supervision

Section C: Accessibility to Academic Materials

This section in the student survey asked 16 questions, primarily concerning the availability of required, preferred, and provided alternate formats. There are questions regarding barriers and the delivery of academic materials in alternate formats⁴, also on training, external programs, and knowledge of copyright. The terminology used to describe alternate formats can be confusing to non-users, and even to some users. For that reason, a brief description of some of these now follows, with definitions provided by British Columbia College and Institute Library Services (CILS).

Terminology/technology

Electronic Text (E-text): (word processing files) used by students (visually impaired, learning disabled) with screen voice readers, such as JAWS, to read print materials using a computer. Electronic text can be further manipulated with software such as screen readers (JAWS), and text-to-speech readers (such as Text Aloud, ReadPlease).

Large Print:

- Electronic text (PDF) format for students with low vision who can enlarge their own print products or read them off the computer screen. Produced by Adobe Systems, Portable Document Format (PDF) allows documents to appear on the computer just as they would in print.
- Large print: print enlargement on paper
- Large print: electronic format (E-text)

Analogue Audio: Cassette tapes in analogue formats.

Digital Audio: CD MP3 format, with human voice, no navigational features. These files can be read on any MP3 enabled device (hardware and/or software).

Digital Audio: CD MP3 format, with synthesized voice, transcribed from electronic text, with file names, no navigational features. These files can be read on any MP3 enabled device (hardware and/or software).

Digital Audio: CD MP3 format, with human voice, with navigational features and structure (DAISY standard) (Digital Accessible Information Systems). This format includes ability to find specific pages, chapters, sections, and in some cases, index or topical

⁴ Some questions regarding alternate formats were intentionally spread throughout the survey. It was felt that too many such questions in a row might become cumbersome.

entries. This format is used in special cases (sciences for example), where human voice is required or where navigational features are essential for using the book (such as reference material). This format can be read on any MP3 enabled device (without navigational features), on DAISY specific portable equipment (some navigational features), or, most effectively, using a computer with DAISY software (highest level of navigational features).

Tactile Graphics: Raised or sculptured drawings.

Braille: A tactile system of cells of dots.

15. In which alternative format(s) do you require academic material?

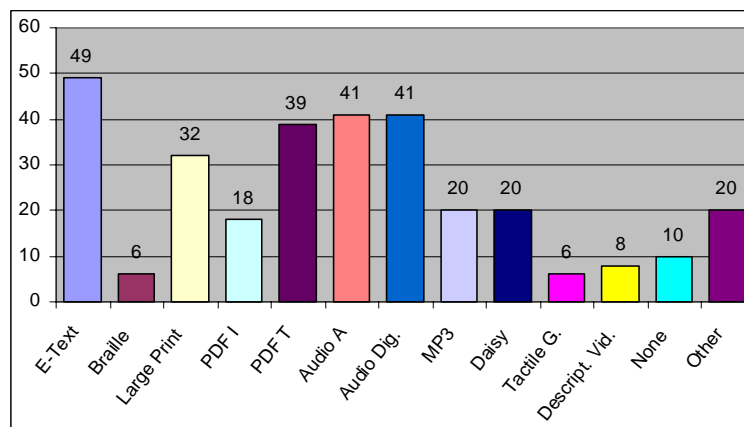


Chart 15: Required alternate formats

Checking all categories that applied, the respondents required E-text the most (49), with audio-analogue (41), and audio-digital (41) formats a close second. Students required PDF text the next most (39), then large print (32), MP3 (20), DAISY books (20), other (20), PDF image (18) On the lower end of the response scale came the categories none (10) descriptive video (8) Braille (6), and lastly, tactile graphics (6).

The distinction between PDF Image and PDF text may not be universally known, and many students may use an older version of PDF, which is often not accessible to users of screen readers such as JAWS. Those that chose both types of PDF account for 18.38%. Again, it should be noted that audio digital formats do include MP3 and DAISY, but we provided a very specific list of items to students to ensure that they would recognize choices provided as formats they use. It is important, considering this, when looking at these responses to point out that DAISY is a very much used format by students as is

audio analogue or tapes of books. DAISY is an emerging format that will be used increasingly. The best use of a DAISY book is through software on a standard PC computer.

There is no stated explanation as to why ten students responded none to this question. It might be that the specific course, program, or year did not necessitate any text-based material at all, such as an oral-based credit. Alternatively, the required alternate format text may already be in the student's possession. The numbers of Braille users is low, with only six respondents of thirty-six who are blind or visually impaired. But our respondent group includes twice as many students who have a learning disability than who are blind or visually impaired. This explains, in part, the small number of students selecting Braille. As well, low vision readers generally do not use Braille, so the use of Braille is limited to a small group within the blind and low vision respondents

In the 'other specified' portion of this question, Kurzweil was mentioned by ten respondents. Other software mentioned included Text Help and Dragon Dictate, both indicated twice, and EyeTech Digital Systems, which was indicated once. Four students mentioned books on tape as a required format, while one mentioned textbooks on CD, and another wrote "CD to analogue print in a PC."

Other answers provided were note-takers and a cassette recorder, online courses, email and online chat. Several open-ended comments were also written, the majority discussing concerns with various formats. The following are those comments as presented:

- Don't own a DAISY recorder.
- I'm thinking of videotaping my classes.
- I mostly get E-text by scanning printed material into the computer, and have also got some E-text files from the Internet.
- I prefer Braille for math material (tactile diagrams are also helpful).
- I have not used audio very much.
- In my first year of study, one of my textbooks was available on cassette.

- I can use PDF files as long as the text is accessible to my screen reader, or I can use my scanning program to generate E-text by doing OCR on the files (provided there are not print restrictions, as it uses a special printer driver).
- In PDF and PowerPoint documents, diagrams and special symbols are usually not accessible either through my screen reader or OCR software.
- I have not had much experience with digital audio. I am thinking of accessing a book for one of my classes this year that CNIB has available in Online Digital Audio through its Digital Library.

16. What academic materials does your institution currently provide to you in alternate format(s)?

Chart 16 shows that E-text is the format most often provided to students with audio-analogue or books on tape the second choice. Several comments were provided discussing students' experiences with obtaining their course materials in alternate formats.

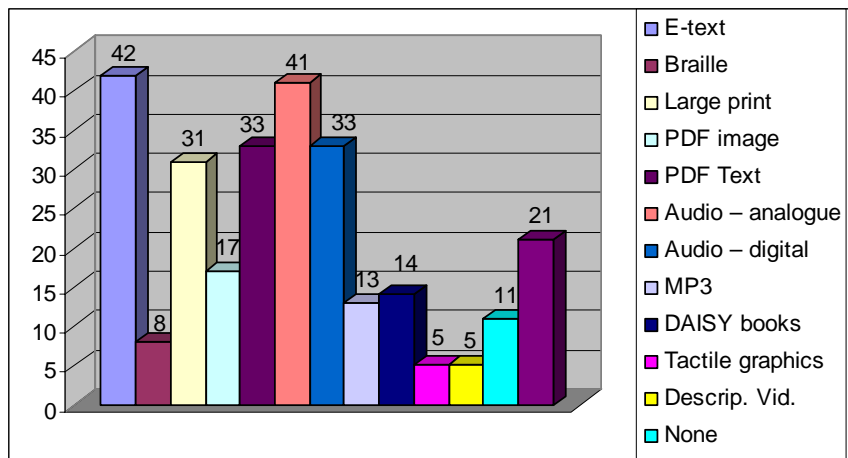


Chart 16: Alternate format materials currently provided

One student noted that the length of time it takes to obtain their books on tape (six weeks) “makes me quite mad.” Another student noted that they receive alternate format materials only after fighting for it “to the point I almost started legal proceedings.” One respondent, while not noting the format in which they receive academic materials, noted they “would prefer digital material,” while another wrote that, “DAISY books would be nice.”

Some students spoke quite positively about their experiences in this area and felt their needs were being met. While one noted that all reading materials are scanned for them

into Kurzweil, another wrote, “I receive educational cassettes to help me read my books.” One respondent suggested that their institution “is excellent in its provision of materials in all formats,” and one college student indicated their school “takes the extra step” in ensuring suitable adaptive technology is found for their use.

17. What are your preferred alternate formats, in order of importance?

First Preference

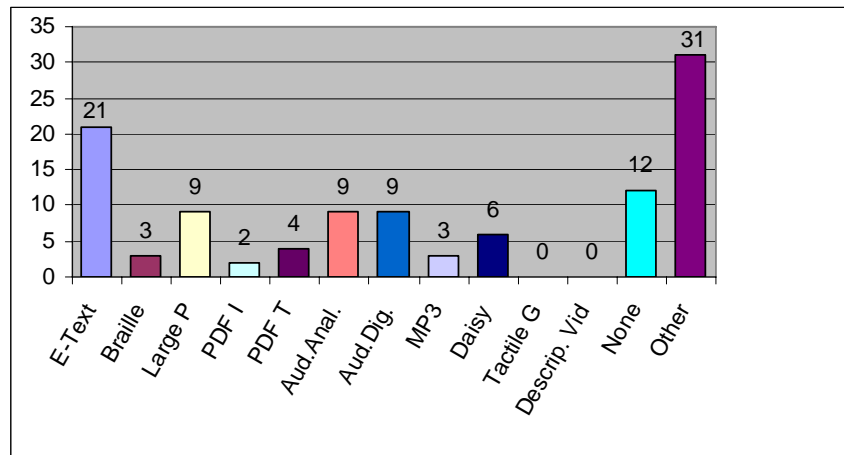


Chart 17: First preferred alternate formats

Breakdown of statistics (N = 109)

This was a critical question and elicited the following responses: other = 28.44%, E-text = 19.26%, none = 11%, audio analogue = 8.25%, audio digital = 8.25%, large print = 8.25%, DAISY books = 5.5%, PDF text = 3.66%, Braille = 2.75%, MP3 = 2.75%, PDF image = 1.83%.

Among students who chose “other” as their answer to question 17 and provided insight into what “other” was, Kurzweil proved the most popular first choice, with nine indicating such. Books on tape/audio books followed, with six students offering it as their first choice. It is important to point out that Kurzweil is an assistive technology product, typically used for scanning and reading documents, and not an alternate format.

While some formats are more used and/or preferred than others “one size does not fit all.” Clearly students with print disabilities must have a range of formats available to them based on personal preference and accessibility. And the choices of formats preferred may be determined for many students by what is available to them at their schools.

Other first choices given were:

- Text-to-speech software
- JAWS
- Adaptive technology
- Online books
- Digital/computer
- Tutor
- Dialogue from CD-ROMs
- Notes either photocopied or emailed to me
- Quiet space
- Digital camera
- Cassette
- Speech recognition
- Zoomtext
- DVD

Second Preference

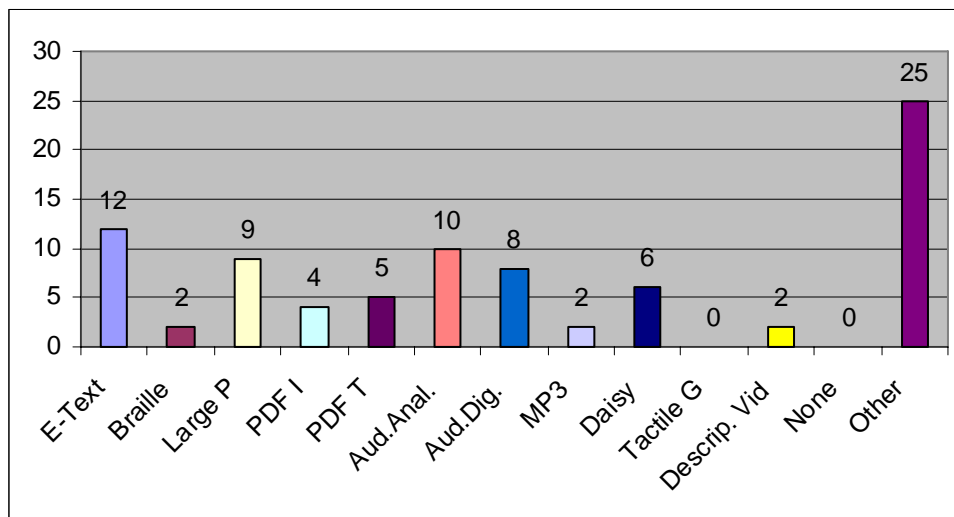


Chart 18: Second preferred alternate formats

Breakdown of statistics (N = 85)

Other = 29.41%, Large Print = 10.58%, Audio Digital = 9.41%, DAISY Books = 7.05%, PDF Text = 5.88%, PDF Image = 4.7%, Braille = 2.35%, Descriptive Video = 2.35%, MP3 = 2.35%

Of the “other” second choices provided in the comments section, Kurzweil software was again the most popular choice, having been identified by four students. Books-on-tape

was again second, being indicated by two respondents. The remaining answers, each provided once, were:

- EyeTech Digital Systems
- Large computer monitor
- Online books
- Dragon Dictate
- Visual images
- Access to a computer with WordSpell
- Scanned text in any format
- Extended testing time
- Computer
- Digital recordings
- Tests on tape
- Proctored exams with reader, not tape

Third Preference

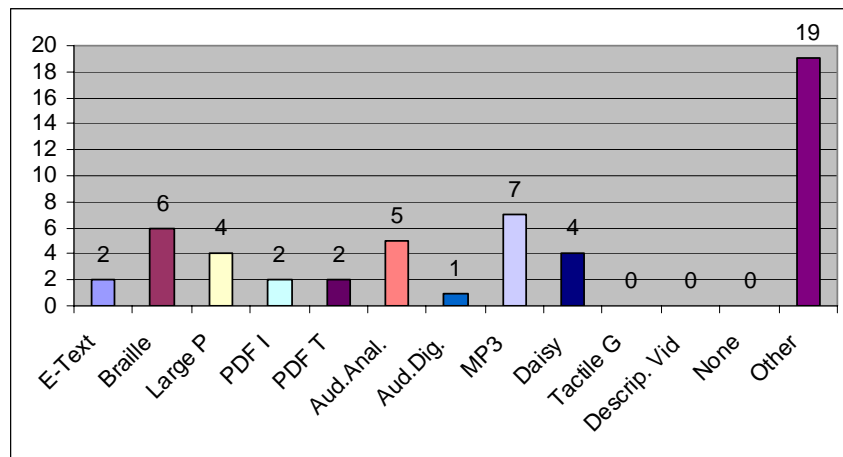


Chart 19: Third preferred alternate formats

Breakdown of statistics (N = 52)

Other = 36.53%, MP3 = 13.46%, Braille = 11.53%, audio analogue = 9.61%, DAISY books, = 7.69%, large print = 7.69%, E-text = 3.84%, PDF image = 3.84%, PDF text = 3.84%, audio digital = 1.92%. Just two third choices for “other” were identified; these were TextHelp and Zoomtext software programs.

Other specified:

Books-on-tape or CD showed up most often under ‘other specified’, listed four times. Kurzweil was mentioned under this category as well by three respondents. Video and ‘wireless communication video’ were each mentioned once, as were tutor and editor, reader, text-speech, software, and extra exam time.

18. Which materials do you require in alternate formats?

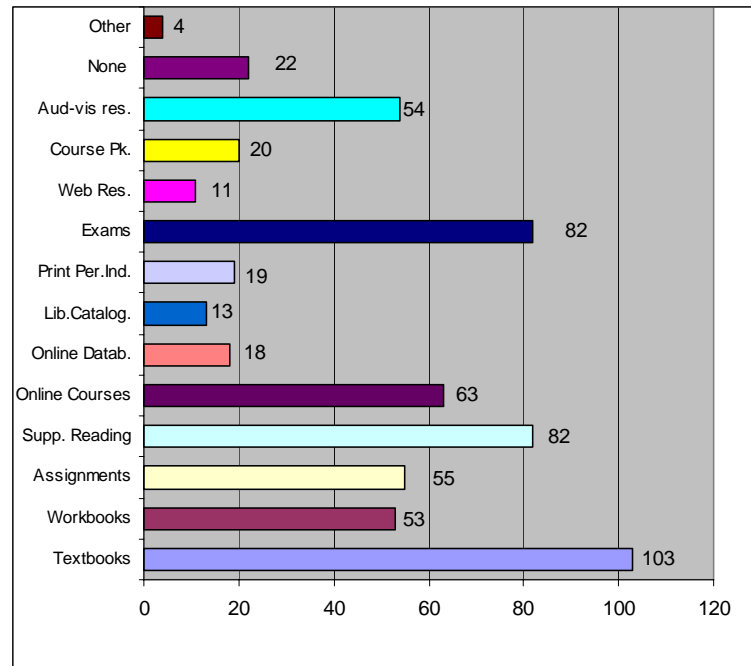


Chart 20: Required alternate formats

When asked this question students offered a range of responses. Textbooks was most often cited, with exams the second choice and supplementary reading third. Under “other”, course notes, PowerPoint, tests, texts on computer, and organization/outlines of texts were each mentioned once.

In addition, the following open-ended comments were provided:

- I have to record all my lectures
- It would be helpful if exams were done in audio formats as well
- I don't know, how am I supposed to know?
- Devices to listen to the material digitally

Twenty-two students answered ‘none’ to this question. Again, an inference may be that no texts were required. The low numbers for online databases, library catalogues and Web resources may be indicative of the need for information literacy training and library support. Also, this points to the need for improvements in internal communications between libraries and disability centres, to increase awareness of what’s available in

accessible formats and where this information can be accessed. It could also be that students still do a lot of their research using traditional print materials in libraries.

19. Does your institution provide you with a complete alternate version of the book (or other material), including charts, graphs, sidebars etc.?

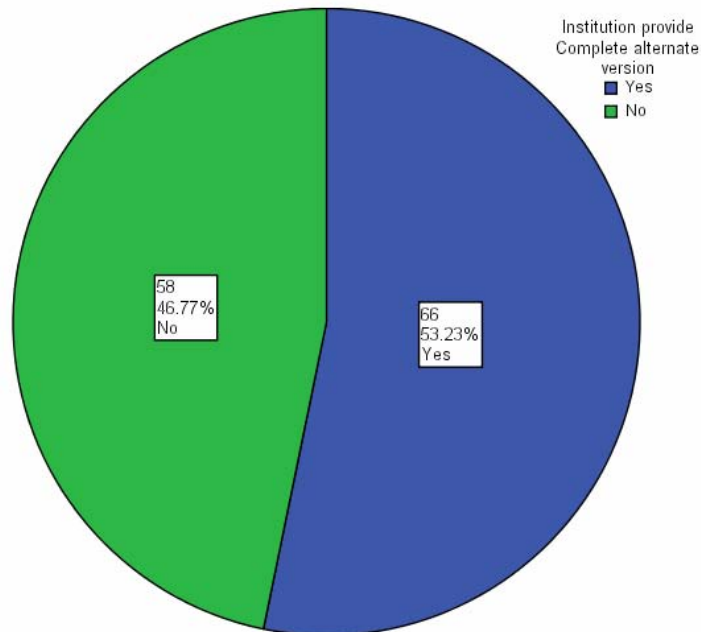


Chart 21: Provision of complete alternate format versions

While in question 33, 40% of student respondents stated that the quality of alternate format academic materials is good, and around 25% said it is excellent, 46% of respondents to question 19 said that they do not receive the entire book in alternate format. This may be because there is not a requirement in every case for the entire book to be produced in a format of choice. We would posit that if students with print disabilities are not provided with the same information in alternate formats as those who use regular print this can affect academic performance and success.

19b) If not, please explain whether you experience a problem in reading the materials that are not equal to the print copy.

Many respondents included comments with this question, the majority alluding to poor or inconsistent quality of materials.

Several of the comments have been included below:

- Sometimes editions are a little different.
- Missing charts and graphs.
- Missing pages reduce my academic learning.
- Kurzweil not always accurate.
- Lack of figures and table is constricting.
- The software I use cannot read charts.
- Trouble understanding what the materials are.
- The alternate versions are poor quality and effect my education negatively.
- They offered to scan the book on Kurzweil but I can't afford the program.
- Maps are a big problem, described verbally is insufficient.
- Depends on who is doing the scan and how it was scanned. I have had to ask for things to be scanned twice to get all the pictures, charts graphs etc. Also I do not always get the version of the book my class is using, instead I am sent to a site to download what is available.
- Only sometimes.
- I just need more time to read the documents.
- Trouble with tapes.
- Supplementary materials are not provided.
- I find that the tapes are useless, inaudible half the time.
- Trouble reading/seeing materials.

These comments are revealing. Many of the issues described are related to the lack of professional readers, qualified people who understand the terminology in academic materials they are reading, lack of standards, lack of knowledge of standards, lack of audio technical support, poor production facilities, and in some cases, the use of volunteers to provide support.

20.a) Are your required class/assignment materials provided in alternate formats?

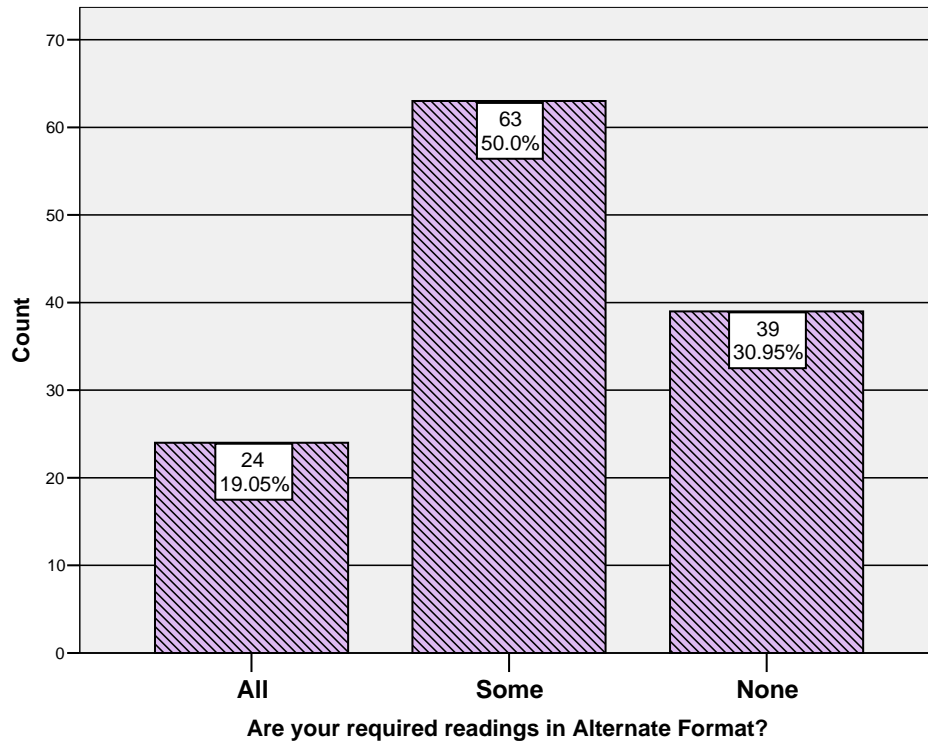


Chart 22: Required materials in alternate formats

Of the 126 students who responded to this question, only 24 (19.05%) indicated that they receive required class/assignment materials in alternate formats. Exactly half the respondents receive 'some' in alternate formats, but almost one-third receive none of their required class/assignment materials in alternate format.

Table 18 compares required and recommended materials available in alternate format.

	Required readings in AF?			Percent	Total
	All	Some	None		
MB	0	4	1	20.0	5
BC	1	5	5	45.5	11
ON	10	37	15	24.2	62
NB	1	2	2	40.0	5
QC	3	7	4	28.6	14
NS	2	1	6	66.7	9
AB	6	6	5	29.4	17
NL	1	1	1	33.3	3
Total	24	63	39	31.0	126

	Recommended readings in AF?			Percent	Total
	All	Some	None		
MB	0	3	2	40.0	5
BC	1	5	5	45.5	11
ON	11	40	11	17.7	62
NB	1	2	2	40.0	5
QC	2	4	6	50.0	12
NS	3	4	2	22.2	9
AB	6	8	3	17.6	17
NL	2	1	0	0.0	3
Total	26	67	31	25.0	124

Table 18. Required & recommended materials in alternate format

20.b) Are your recommended class/assignment materials accessible in alternate formats?

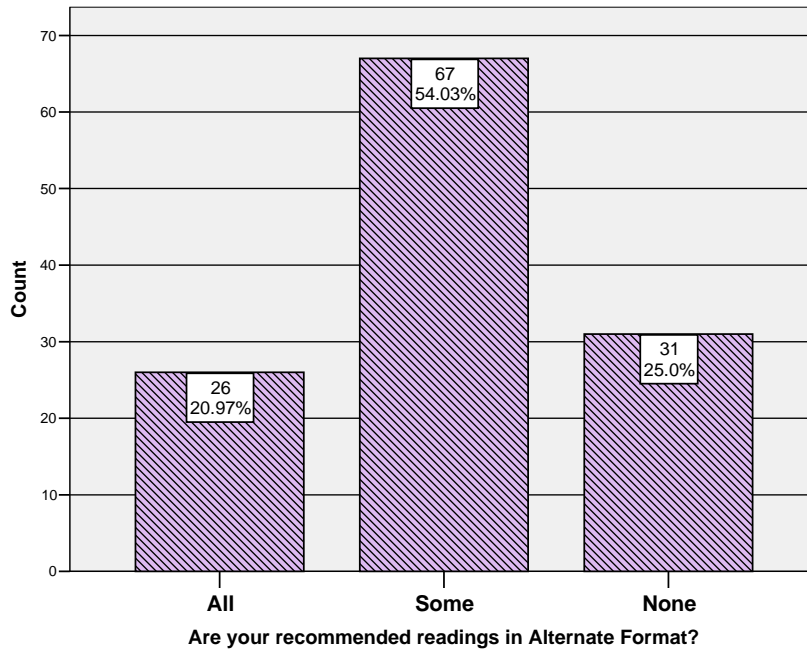


Chart 23: Accessibility of recommended materials

The responses to this question are almost identical to those of the previous one. It was reported (Question 18) that 82 students required supplementary readings in alternate format. This reinforces the fact that there is an urgent need to redress the problem and provide all readings and assignments in alternate formats.

21. Do you receive the academic materials and services in alternate formats that you require in a timely manner?

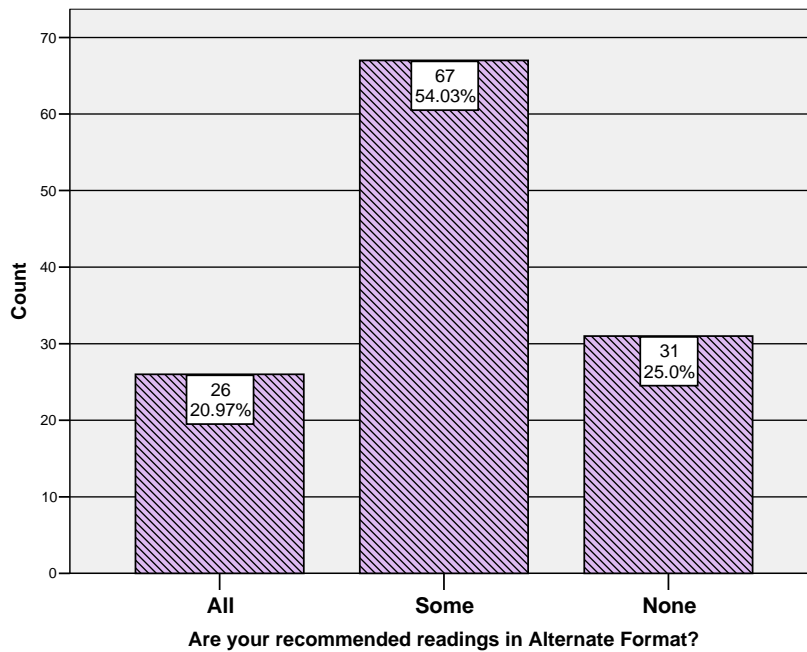


Chart 24: Timely receipt of alternate format readings

Receiving material on time is an essential part of any student’s education. Specifically, when it comes to half-credit courses (which are increasing in Canadian educational institutions); it is important that materials necessary for course work be received in a timely manner. Students responded that 38.84% of the time they receive their academic materials and services on time. Half of the respondents, however, do not, and 10% never receive their materials on time.

One student provided this comment: “Because alternate formats like E-text aren't always available, we often have to scan the text books page by page, which is very time consuming”.

22. If not, what are the barriers preventing the timely delivery of alternate format academic materials? Check all that apply.

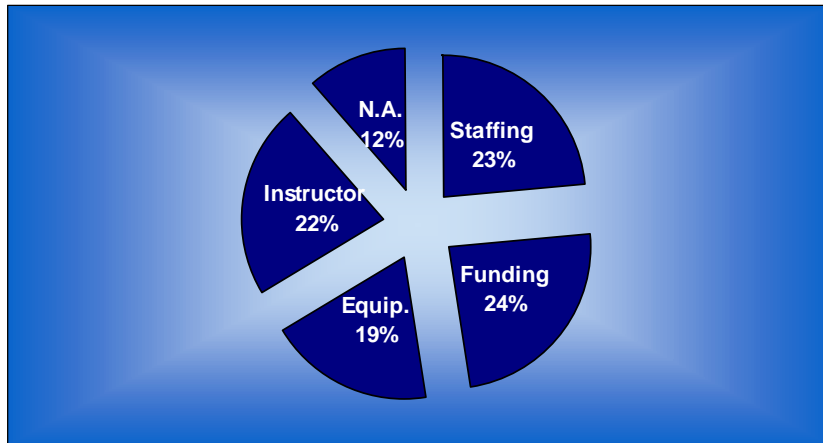


Chart 25: Barriers to timely delivery of materials

The percentages in this chart represent the number of students indicating each response. A variety of responses were again offered for this question, suggesting everything from the amount of time needed before government funding is provided, to course instructors who are unwilling or unable to help students locate academic materials in alternate formats, to issues with equipment.

The following comments were provided:

- I suspect that before long all libraries will be accessible in audio format. I am waiting for that day. I know that scanning all my articles on to my computer so they can be read (print to text) to me is so time consuming! Sometimes the publishers are the barriers, want to know everything and too much paperwork.
- Since they are students, volunteers are slower.
- Electronic text supplied upon request, not always when needed, (on course start date). I have to request for each course in program, nothing pre-planned by college. Materials had to be requested by book publishers and not all of them supplied or else charged extra money for a format, so I had to do without.
- Funding for equipment is attached to financial aid, which is too lengthy a process.
- Many professors are not able to provide material in alternate formats
- Teachers unhelpful
- 1 scanner, 1 staff

- Lack of time for info processing, limited equipment
- Transfer of material between campuses is long and overly complicated
- Lack of professors' understanding and knowledge.
- Too much reading material to be scanned
- The mail can take one or two weeks
- Materials do not arrive on time
- Need to have tapes shipped from campus to campus
- If a book is held by a library, it should be in all formats

23. Do your instructors respond to your alternate format accommodations needs in a timely manner?

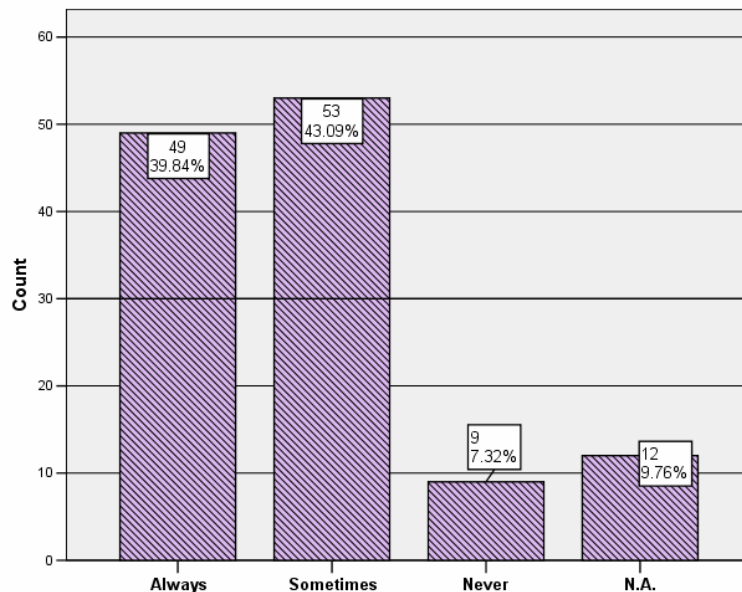


Chart 26: Instructors response time

In Question 22, 22% of students reported that the instructor was one of the barriers to receiving materials on time. In this more direct question, just under 40% always receive a timely response from their instructor. 43% say that this occurs only sometimes, and just over 7% say they never receive response requests within a reasonable timeframe.

Of the six comments provided, four suggested that this depends entirely on the instructor, with some offering a degree of assistance, and others either seemingly

unaware of certain disability types and accommodation requirements, or unable to offer proper help because of limitations on their own course preparation time.

Here are the comments provided:

- Depends on the different instructors
- I do the scanning myself. Readings are accessible because I make them accessible.
- Teachers more accommodating this year than in the past
- Disability services look after this. Professors never have the time to read my dossiers.
- Some professors are unaware of the limitations of ADD.
- Not the instructors' responsibility. The Disability Resource Facilitator does this.
- I have to spend too much time tracking down the instructors.

24. From where do you receive your academic materials in alternate formats?

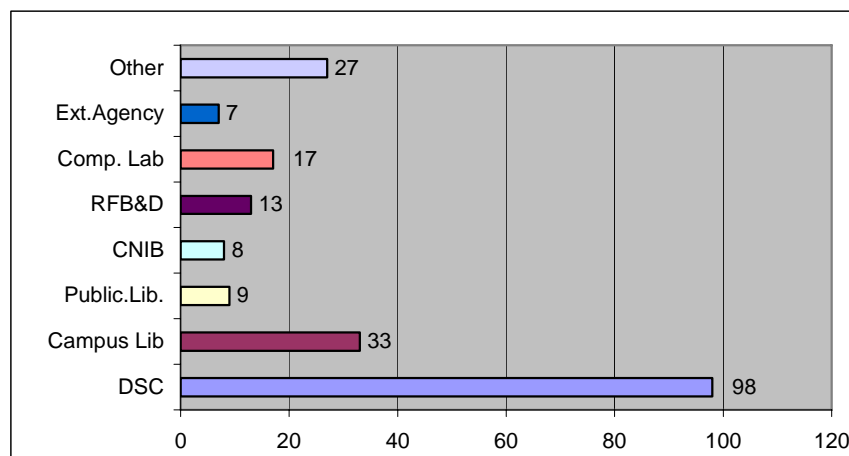


Chart 27: Where are alternate format materials received from

The students would most likely report on the office or service that provides academic materials directly to them, whether produced on-campus or off-campus. Ninety-eight students remarked that their academic materials were received from the Disability Service Centre. It may well be possible that in many cases these materials came through an external agency (such as CNIB, RFB&D and provincial resource centres) first, and then to the student through the on-campus centre. The students would most likely report on the office or service that provides academic materials directly to them, produced on campus or off campus. But this is very important to note, as clearly the Disability Service Centre is the central resource for students requiring document in alternate formats, with the library a second choice.

A variety of responses were provided under “other”. Three people indicated they receive alternate format materials from their instructors, while two students suggested other on-campus organizations are responsible for distributing such materials – the career centre in one case, the assistive technology department in another. Two other respondents suggested their alternate format materials come from their provincial governments’ department of education.

Here are the other answers given:

- Direct from publisher
- Technology to convert myself
- Generally if a professor doesn’t print my materials in a larger font or e-mail them to me so I can do it myself, I don’t receive materials.
- W. Ross MacDonald
- DAISY producers
- Service du CEGEP du Ste. Fois.

Several open-ended comments were also provided for this question. They are presented here:

- Generate them myself with an OCR program.
- College and book publishers.
- Publishers, online.
- Professor provides enlarged exam to student services where I write the exam.
- Very good people at the DSC. Without disability services I could not attend. University.
- From professors/teachers.
- The disability service centre is in the library at York.
- Online journals, PDF format.
- University-owned coursepack printing company.
- CILS.
- Campus library gets all my books on tape from CNIB and RFB&D.

25. What programs and services, if any, do you use outside of your post-secondary institution to access academic materials in alternate formats?

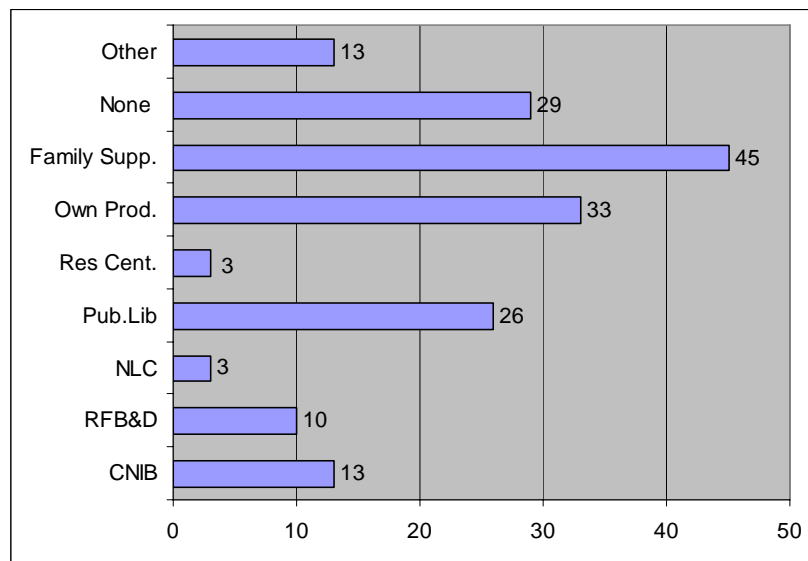


Chart 28: Aids & services used outside of PSEI

Clearly, “family support” is critical for students with disabilities. This category was selected most often by respondents. “Own production” is a clear second, suggesting many students have to scan and produce books and articles themselves, perhaps assisted by the disabilities service office.

Of the responses provided for “other”, friends were the most common source of alternate formats, with five students indicating they borrow a friend’s alternate format materials.

Other answers provided were:

- Online E-books
- Websites
- Kurzweil
- I call the publisher for alternative material.
- W. Ross MacDonald Institute

Open-ended comments provided indicated the following:

- Generate them myself with an OCR program
- Post-secondary students made to use CNIB or SMS

26. Do you receive any training or information in the use of alternate format materials and technologies to access them?

Over half of the students indicated that they receive training of some sort. Of the comments provided, four suggested training was either inadequate or not offered at all. But the majority of comments offered did indicate that a satisfactory level of training is available to students who require it.

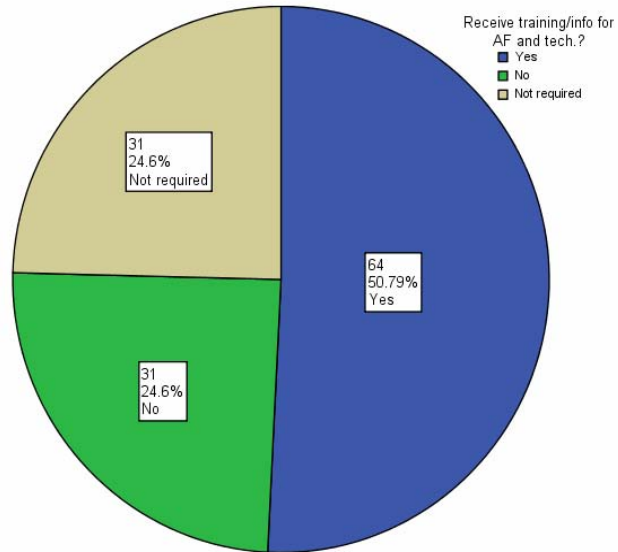


Chart 29: Training received in use of alternate formats

Five students wrote that they received training on a specific program or programs, with three indicating Kurzweil training, and Zoomtext and TextHelp both being mentioned once. One student said they received “training on using computer programs.”

Four students indicated they receive training on anything they don’t know how to use, or any new technologies they receive. Finally, one student mentioned they “already had the training.”

Table 19 shows the student responses to training received by province.

			Receive training/info for AF and tech.?					
Responses			Yes	%	No	%	Not Req	%
Province	5	MB	0	0	2	40.0	3	60.0
	10	BC	6	60.0	2	20.0	2	20.0
	63	ON	36	57.1	14	22.2	13	20.6
	6	NB	0	0.0	3	50.0	3	50.0
	13	QC	6	46.2	6	46.2	1	7.7
	9	NS	7	77.8	1	11.1	1	11.1
	17	AB	8	47.1	2	11.8	7	41.2
	3	NL	1	33.3	1	33.3	1	33.3
Total	126		64	50.8	31	24.6	31	24.6

Table 19. Training received

27. What technologies do you use to access academic materials that are in alternate formats?

The largest number of responses, 66, was indicated for optical character recognition (OCR) software; 55 chose two-track and four-track tape recorder, while 53 students used text-to-speech software (WYNN, ReadPlease, TextHelp, TextAloud). For Digital audio player (DAISY, CD/MP3 Player) the number of respondents is 39, 21 for screen magnification software (Zoomtext, Magic), and 20 for the category other. 16 use screen-reading software (Jaws, WindowEyes), nine Closed-Circuit Television (CCTV), eight Braille software, and use eight Braille equipment (OpenBook, Kurzweil) to access academic materials that are in alternate formats.

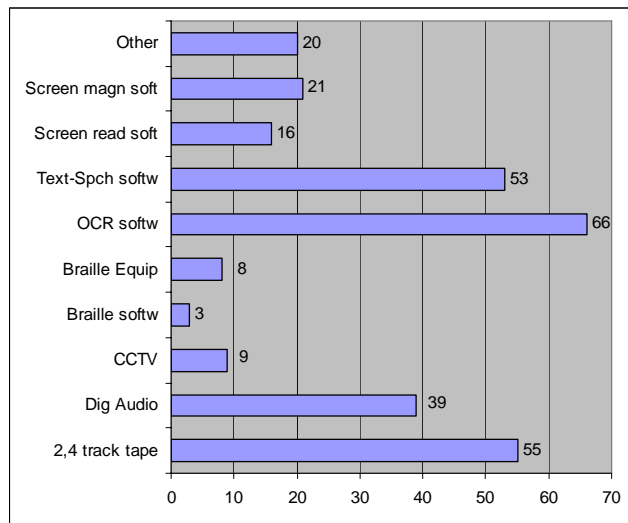


Chart 30: Technology used to access alternate formats

Dragon Naturally Speaking was the most commonly provided response under the category “other”, being offered by four students. In addition, Dragon Dictate was indicated once.

The following answers were each provided once under the “other” category:

- Via Voice
- EyeTech Digital Systems
- Word Q for PDF files
- Voice recognition
- Digital record player
- Reader
- Franklin Speaking Dictionary
- Internet
- Inspiration
- Audiotape player
- Kurzweil
- Some of these were recommended by CNIB but I can’t afford them.

28. Are your alternate format needs different for non-classroom/laboratory activities (such as registration, exams etc.)?

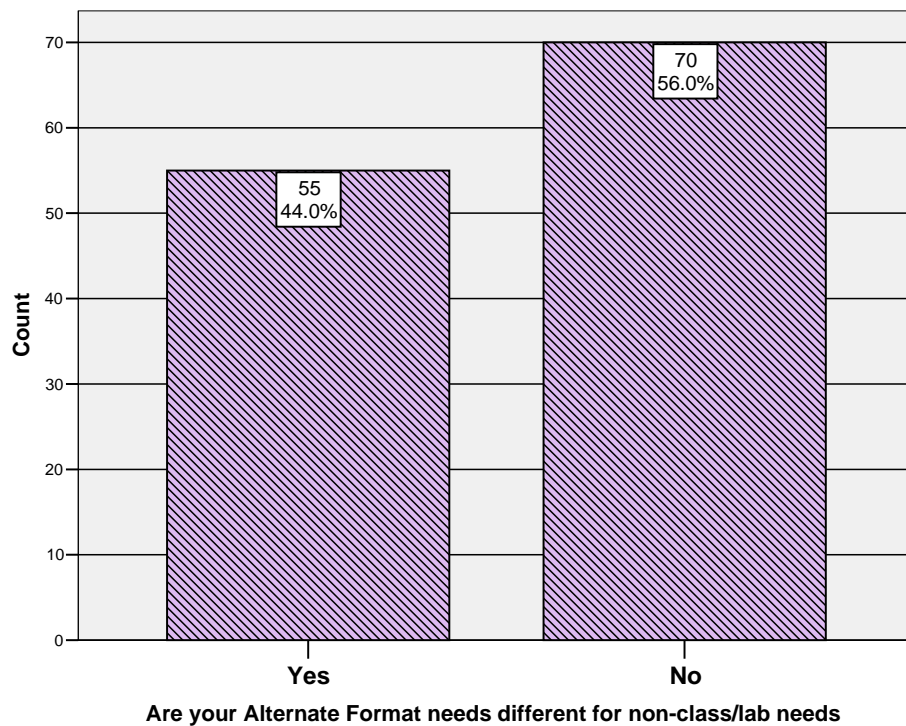


Chart 31: Alternate format needs and non-class environment

Beyond the textbook, the issue of access to other types of academic materials is important. In this question, we asked if students also needed alternate formats for timetables, exams and registration. Fifty-five students indicated that their needs were different for non-class or laboratory needs. Six of the eight open-ended comments provided with this question suggested that students' needs are different for exams and tests. One student indicated they always type their exams, and extra time, a separate room and a test proctor were all mentioned as necessary accommodations.

In addition, one student wrote that "I use Windows to modify my desktop," and another wrote, "Need to have someone to assist."

29. Is the following information available to you in alternate formats that you can use at your institution?

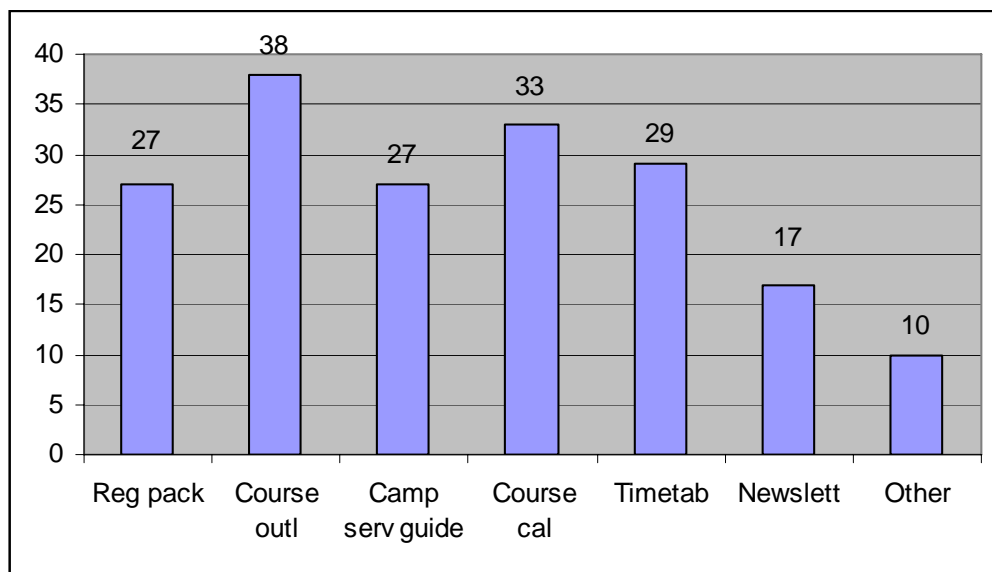


Chart 32: Availability of information in alternate formats

This question builds upon the responses from the previous question, in which 44% of students report their needs for alternate formats extend beyond the textbook into areas such as timetables, exams etc. In this question we offered a list of materials that are not directly related to classroom work but are important to the participation of students in campus life and academics. The students responded by checking all that applied. The results, as shown above, indicate that there is a remarkably similar division between all the different categories. This indicates that students need full access to everything that is

published on campus, whether it is timetables, campus guides, registration forms, course outlines, or any other form of printed material.

Under “other”, one respondent wrote that health and wellness information is available in a workable alternate format on campus. Several open-ended comments were also provided. A large number (7 out of 16 of respondents) indicated students were unsure if such materials were available in alternate formats, and/or that they hadn’t looked into it. In addition, three students provided comments suggesting that such materials are not available to them.

In addition, the following points were raised by students:

- If requested.
- Not needed.
- The student affairs website is available in alternate formats.
- I can read and understand registration packs and outlines; it is the textbooks I have trouble with.
- College should provide CD-ROM of services to listen or see using assistive technology.

30. Are you aware of your rights to accessing alternate formats relating to the exceptions for persons with perceptual disabilities under the Canadian Copyright Act?

The following two questions deal with knowledge of copyright issues pertaining to formats other than print. This issue featured heavily in many of the comments. There are several similar questions regarding copyright that have been asked in the service provider survey also. Analysis of this area will be undertaken in a crosstabulation section after both surveys. Of note, here, is that some 36% of students state that

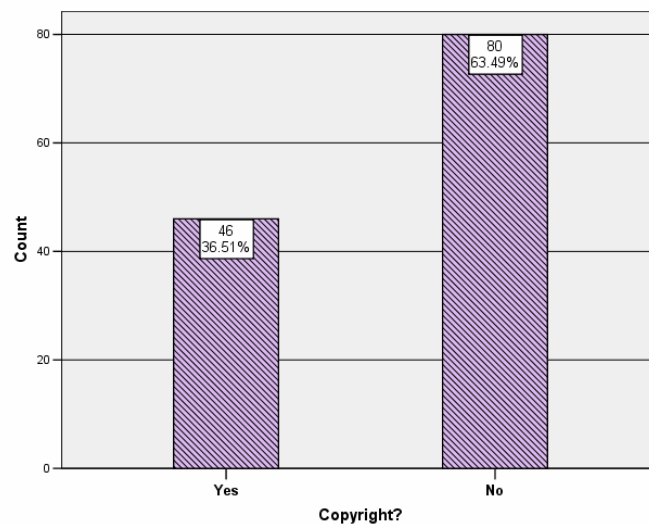


Chart 33: Copyright knowledge and accessing alternate formats

they are aware of their copyright rights, but the remainder, almost two-thirds, are not. Just three comments were provided for this question, suggesting unfamiliarity with rights under the Canadian Copyright Act:

- After trying to answer the questions in this survey, I realize I don't know my rights.
- No, but would love to know more.
- Never heard of this act.

31. Are you aware of your responsibilities when using copyrighted material in alternate formats (such as honouring the copyright of the work, not copying the work for others, and purchasing a copy of the print book)?

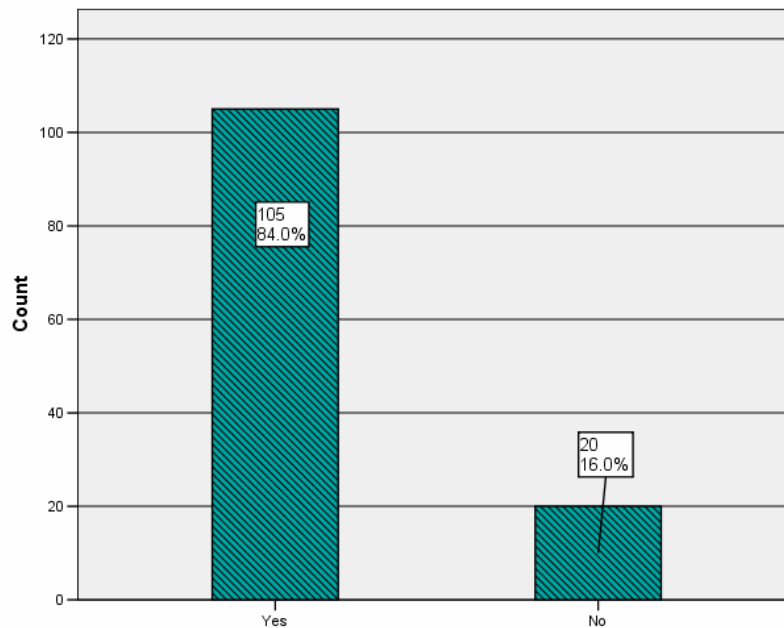


Chart 34: Copyright knowledge and responsibilities

Interestingly while only 37% said they know their rights under the Canadian Copyright Act, in the previous question, 84% said they know their responsibilities.

The following comments were provided:

- I sign a paper when I copy a textbook.
- Yes, but could be explained more.
- I was not aware of purchasing a copy of the print book. That makes no sense to me and is nothing more than clutter, as I will never use them.
- Vraiment!!

Section D: General Questions

In this final section of the student survey, we asked three questions (the last being in three parts). We queried the students on issues such as where students first learned about academic materials in alternate formats, and how they rated the quality of these materials. Finally, we asked them to list their top three best experiences, and their top three worst experiences, after which they were asked to comment on how service could be improved.

32. How did you first learn about the availability of academic materials in alternate formats at your institution?

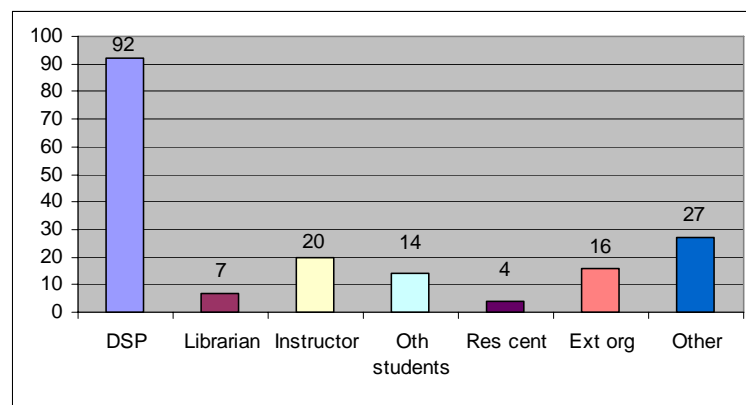


Chart 35: First learned of availability of alternate format materials

With a total of 92 responses, the disability service provider offices are by far the most common method for students to learn about the availability of alternate format materials. In fact, the total for all other responses combined (88) is smaller than the service provider office responses. After the response “other”, instructors were the next most common source of learning about the availability of alternate format materials, with 20 responses. External organizations were next with 16 responses, and the “other” category totalled 14. On the lower end of the response scale came librarians and resource centres.

Other Specified

Three respondents gave answers under “other” suggesting that high school teachers were able to inform them about the availability of alternate formats at their post-

secondary institution, while two relied on information provided to them by course counsellors.

Additional answers provided under “other” were:

- Assumed services here, as were at previous school
- Publishers Websites
- Summer institute
- Psychological assessment
- Desert Base society in Penticton before their closure
- Social worker

Several comments were provided with this question, with some suggesting other sources of information about the availability of alternate formats at respondents’ institutions, and some students providing insight on the information-gathering process:

- Disability organization on campus
- Centre d’aide en français
- Atlantic Province Special Education Authority
- Friend at university with similar disability
- Alder Centre
- Detailed information on these issues is difficult. People generally have no idea.
- I did it on my own at first.

33. How would you rate the quality of alternate format academic materials that you receive?

How students rate the quality of the materials that they receive is perhaps one of the most important issues considered in this survey. This question is compared with a similar question found in the service provider (question 10) survey, and analysis of the comparison can be found in the conclusion/recommendations section of this report. The

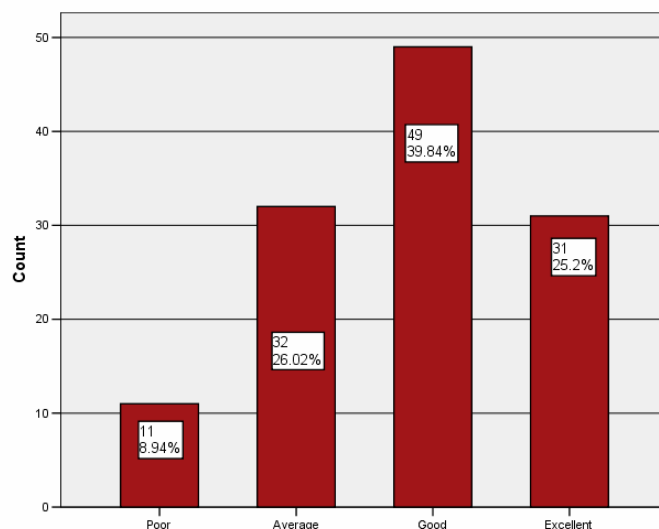


Chart 36: Quality of alternate format materials

statistical response to this question can be read in different ways, almost like a half-full or half-empty glass.

Of the 123 students who provided a response to this question, 11 (8.9%) said that the quality of alternate format academic materials was poor. Thirty-two students (26%) said it was average, 49 (40%) that it was good, and 31 (25%) reported the quality to be excellent. Dividing these statistics up, it can be said that 35% of the students report the quality to be either poor or average, and 65% that it was either good or excellent. The single largest response, however, came from those who claimed the quality was good, and the smallest response came from those who said it was poor. So while a large number of respondents told us that they often don't receive their materials on time, when it is produced, the quality is generally good to excellent.

The following comments were provided, indicating that materials presented in various formats could be improved:

- Books produced on recycled paper do not work well with Kurzweil at all.
- Not applicable, as Kurzweil is borrowed from a friend from another institution!
- Sometimes I find that the tape quality could be improved.
- Some readers are hard to understand, and make up their own words!
- Students are sometimes not good at reading books to me.
- Sometimes the computer can't read writing in boxes.
- Staff and materials help me do better in my courses.
- Where the professor has underlined sections in readings, WYNN has problems reading this.

Information from the open-ended comments is invaluable. The comment, for example, that states that books produced on recycled paper does not "Kurzweil", or scan, well, is the type of response that would not be gleaned from a checklist response. Other issues are also made clear: despite the fact that there exist a variety of options open to students with print disabilities, many problems remain. Text placed in boxes, and text that the instructor has underlined, is difficult for text-to-speech programs to read. Furthermore, throughout the survey, the poor quality of readers has been emphasized. These are issues that go beyond the abilities of the software, yet they are essential components of the quality of academic materials in alternate format.

34.a) Provide up to three examples of the most and least successful services/experiences that you have encountered relating to accessing alternate format materials at your institution.

This question has its counterpart in the service provider survey. It offers students the chance to list the top three best and worst practices and experiences that they have encountered at their institutions.

First Most Successful Services/Experiences

Top 3	First Best	Second Best	Third Best
1	Kurzweil	Materials in format of choice	Exam Accommodation
2	Materials on Time	Adaptive Technology	Extra Time for Assignments
3	Extra Time for Assignments	Books on Tape	Disability Services Staff

Table 20. Top three responses for first, second, and third best experiences/practices

Of the answers provided as respondents' first choice for most successful service or experience, specific alternate formats were often cited, as were adaptive technologies. Kurzweil, which is a method of reading, not a format, was the most common first choice, but books on tape or CD, DAISY books, large print, JAWS, Zoomtext, CCTV, EyeTech and PDF technologies were also all mentioned.

Receiving alternate format course materials in a timely fashion was mentioned by six respondents, as was the helpfulness of the disability service centres on campus. In some cases, the prompt provision of materials and the helpful nature of disability services were intertwined in student comments. Regarding timeliness, for instance, one student wrote, "All of my tapes are ordered and ready to use by the first day of school. The staff is on the ball." Another student, who spoke of their disability service centre, wrote, "They do an excellent job at getting alternate formats (i.e.; E-text) for me quite timely."

The ability to take extra time in writing tests and exams was listed as a first choice by five respondents, while four students mentioned the ability to locate a good tutor when needed.

Three students mentioned specific interactions with instructors as their choice for most successful experience. One student wrote, “(With) one instructor I don’t have to even ask for anything, it is always available.” Another mentioned that their instructor “emailed course outlines in electronic format to me,” while a third student cited email from instructors as a positive experience.

The following are other responses given as first choice for most successful experience:

- In an art history class, the professor provided both colour and black and white copies of the art works for me to study.
- Provision of someone to scan for me
- I only use them for exams
- Bursary for persons with disabilities
- Staff is great at shipping materials.
- Empathy with my condition
- Academic support
- Co-operation
- Always people to talk to
- Orientation week (helpful for my understanding)
- Library support and resources
- Exams in LP
- Writing exams in a separate room
- Staff
- Meeting and working with a counsellor
- Note-takers
- High-speed scanner that does both pages at the same time
- Learning resource centre
- People in department very helpful
- Reassessed through school for reasonable price
- Good training level of staff members
- They helped me purchase a laptop
- Access to a counsellor
- Staff very approachable
- Reader
- Text-book and course material
- The manner in which facilitators meet my needs
- Moral support
- Exams, and a separate room
- Receiving helpful information
- Being able to take out a 4-track player for 3 to 4 weeks
- Counselling services
- Helpful library staff
- Scanning of texts (course pack)

Second Most Successful Services/Experiences

A large number of respondents providing second choices selected either the availability of course materials in their format of choice, or the availability of adaptive technology needed to read texts. Books or exams in audio format were mentioned four times and Kurzweil was mentioned three times, while several other technologies (audio-visual lab, Inspiration, Zoomtext, TextHelp, MP3 players, tape recorders) were all mentioned once.

Extra time for exams and/or assignments was also offered several times as a second choice, with seven respondents indicating such. This was followed by the helpfulness of instructors and/or faculty in general, and the helpfulness and knowledge of disability services staff, both of which were offered by five students as their second choice. Four students wrote about test/exam accommodations (quiet room, having materials scanned, the use of a computer for exams), while three respondents indicated the provision of assignments and/or exams in alternate formats as their second choice. Finally, two students mentioned tutors as their second most positive experience.

The following are other answers provided as number two choices:

- Some software very up to date
- Photocopying from the disability services
- Allowing students to tape lectures
- Note-takers
- Learning strategies
- The fact that I was made aware of various options
- Excellent quality of materials
- Receiving a bursary for equipment
- Getting help with my computer
- Training on use of software
- Transcription services
- Provision of specialized computer equipment in campus library
- School library
- Flexible scheduling

Third Most Successful Services/Experiences

A variety of responses were provided as third-most successful experiences. Exam accommodations were most often cited, with eight respondents mentioning they receive quiet rooms, equipment needed to write exams, exams in alternate formats, and readers or scribes as needed. Similarly, the provision of extra exam time was another common response, with five students indicating this as their third choice. Six students mentioned the supportive and approachable nature of their disability services staff as their third choice. Online courses and large print materials were both mentioned twice.

Here are other answers given:

- One professor noticed that I had not included page eight of my paper and emailed me to send it to her.

- Note-taker
- Scanning speed
- Tutors
- Learning JAWS program
- Couldn't do exams if they didn't give me a computer
- Audio digital
- Cowriter software program
- Legibility of E-texts
- All lecture overheads are on Internet
- Loan of computer
- Librarian
- Bursary
- Receiving copies of reading material in PDF (coursepacks)
- Being contacted as soon as readings (in alternate formats) are available
- Family and friends
- If problems, get another text
- Counsellor

FIRST Least Successful Services/Experiences

Top 3	First Worst	Second Worst	Third Worst
1	Delays in getting materials	Quality of alternate formats	Exam accommodations
2	Instructors	Availability of alternate formats	Lack of understanding
3	Quality of alternate formats	Exams	Instructors/Timeliness

Table 21. Least successful services/experiences

A large number spoke about timeliness issues as their first choice for least successful service or experience. Nine respondents wrote they experience delays in obtaining their course materials in alternate formats, particularly at the start of a year or semester. In addition, one student mentioned paperwork delays, which can also lead to delays in the delivery of alternate format materials. On the issue of the time it takes to obtain alternate formats, one student wrote, "Send the tapes faster. A course lasts 12-14 weeks, and it can take six weeks to get a recorded cassette," while another student indicated that, during the 2003-2004 school year, "I didn't get my books until November."

Another common choice for least successful experience was concerns over instructors who either appear ignorant of the needs of students with print disabilities, or are uncooperative toward student needs. Six students made comments raising such concerns, with one respondent writing that there should be "more communication between faculty and the staff at disability services."

The inconsistent quality of various alternate format materials was a concern raised by four respondents, as were concerns about the time commitment students must invest in scanning their own course materials into a suitable alternate format.

Quality concerns regarding notes completed by note-takers were mentioned three times, and three respondents also indicated a shortage of available books on tape. The difficulty in getting publishers to provide an E-text version of a book was a point raised by two respondents.

Other responses provided were as follows:

- Over-reliance on Zoomtext
- Training on software re: voice recognition
- Access to staff members and equipment subject to scheduling and appointments (voicemail, email)
- Library access
- WYNN is useless
- Lack of plan for obtaining materials
- No computers for visually impaired that are evident
- Kurzweil not recognizing scanned text occasionally
- Some publishers don't provide a second copy of the text so it can be scanned.
- Accessing research information
- Federal government denies funding for some of the software I need.
- Sometimes people just don't understand.
- Not enough time to do finals
- Staff breaks
- Adjusting program to meet my needs
- My printing credits get used up in providing printouts for myself.
- More French services needed.
- Inter-campus complexities
- Length of time it took to get Dragon to recognize my voice
- Labels are confusing.
- When LP is not ready in time
- Not being able to have 'programs' (Kurzweil, Texthelp) to use at home
- Lack of a room to write exams in
- Scanning through Kurzweil, not enough staff to help
- Lack of a quiet room
- Universal access for class notes
- I fall between the cracks, not being legally blind.
- Bad instructors

SECOND Least Successful Services/Experiences

Quality issues were again commonly cited, as four student respondents pointed to inconsistent quality of alternate format materials as their second choice for least successful service or experience, and three people wrote about quality issues with the equipment required to use such materials.

A shortage of materials available in specific alternate formats (books on tape and large print texts) was mentioned three times, as was the issue of late arrival of materials converted to alternate formats for student use. Finally, two people spoke of exam concerns, with one writing “loud testing during exam,” and another simply mentioning exams/test problems in general. Two people wrote that not all courses are properly adapted for persons with disabilities.

Here are other choices offered by respondents:

- Even under the best conditions I can't read my handwriting.
- Reader stole my textbook!!
- Trying to take own notes
- Publishers
- No spell-check on computer
- Teacher preparation
- No way to access math
- No secretary on duty most of the time
- Staff not providing information on where to return materials when finished with them
- Meeting counsellors
- Educating instructors in ignorance of disabilities
- Non-accessibility
- Sometimes tutors are too tired, and they cancel on me.

THIRD Least Successful Services/Experiences

While a variety of different answers were provided as third choices, one theme that did arise was concern surrounding exam accommodations. Four students wrote of such issues, with one indicating instructors sometimes don't have exams ready on time, and three mentioning inadequate or inconveniently located computer technology in exam rooms.

Two students indicated a lack of understanding among the public about disability issues was their third choice for least successful experience. Several other good answers were provided, as follows:

- Having to notify instructors about text problems, instead of the college keeping them informed
- Not being recommended for teaching because of disability, and not GPA
- Lack of computer technology
- Inaccessibility of library books (unless I scan them)
- Front desk not staffed well
- Most pages are not transcribed, especially with DAISY
- Time required to get materials

- Much essential information not available in alternative format
- Equipment not working

An important element of this survey was the open-ended comments solicited from the participants. In this final section, we asked respondents to provide their opinion on how the services could be improved.

How Could These Services Be Improved?

Many good suggestions were offered by student respondents, as to how services might be improved in question 34:

- Better quality photocopying for coursepacks
- More funds
- Bigger facilities
- Exam rooms should be equipped with computer tables.
- All texts on tape
- I would like to try out the computer before I use it on exam day. I am sure the computer could be 'locked' so I could not hide class notes and cheat!
- More funding and staff.
- More information on all programs and services available
- Digital formats, better progressive equipment
- Have you guys (NEADS) come to campus and speak to students and instructors
- If we had two of Carol (tech admin) and two of Alice (counsellor/administrator)
- More books in audio format from publisher
- Planning, surveys
- More staff, book lists early
- Have a library of alternate format materials
- A permanent DSS member who can't leave the desk
- Better computer programs
- Provide disc versions of the text
- More funds, nation-wide database
- Have access to training for materials
- Better outlines of tests in advance
- It would be nice to have the same services in French.
- School/CNIB provide more information about the locations of alternate formats
- Change the underlying text for Kurzweil.
- Better access to quality print material for scanning, not course packs that have been already scanned ten times
- Putting Zoomtext on campus computers
- Publishers should be more accommodating.
- Note-takers that are interested in helping visually impaired students
- Qualifications for readers
- More regular computer (size) for testing
- Planning, organizing, testing, surveys, research, interaction

- More copies
- More support staff for disability advisor
- More funds for technology
- More walk-in centres, equipped labs
- Funds, update technology
- More large print and books on tape for the library
- Making sure that the disc given out actually works
- Having workstations for disabled students
- Less funding restrictions by federal government
- More knowledgeable staff, and more staffing availability
- Educating instructors
- Professors and people generating materials for the visually impaired need to know what formats are Zoomtext compatible and make files accordingly.
- Eliminating excessive offices and clarifying which office is responsible for which issue
- Rental of more equipment to speed things up
- More funding for disability services, more grants for students
- Take more time to find space for exams.
- Professors should familiarize themselves with the needs of the handicapped students.
- Easier access to services
- Co-ordination with professors and departments and our needs, 3-4 months in advance for alternate formats
- Tutors should not cancel; professors should have exams ready on time.
- By improving co-ordination among the staff from the agencies involved in providing the services
- More information essential to students should be made available in alternative formats - it should be widely recognized that not all students can read print.
- Use titles along with module numbers.
- Better recording of textbooks, more quiet rooms for exams
- Books on tape need to be done on time.
- Put class materials online.
- Put longer pauses between questions on exams. Also, don't have exams downtown but in usual place, as a change adds anxiety.
- Clear up the rules for those who are "almost disabled."
- They are already great, no improvements needed!!

These comments point out a variety of issues of importance to students in the delivery of services. Key issues identified include funding, on-site access (physical, computers and adaptive software), better access to appropriate alternate formats, and co-ordination/communication with faculty, tutors, and service centre staff.

The following student comment highlights the need for better delivery mechanisms and better support from publishers: "There should be a more (efficient) centralized way of

getting books in alternative formats. Pre-arrangements should be made with publishers such that E-texts are readily available to students with disabilities once books are published".

SERVICE PROVIDER SURVEY

Service Provider Profiles

The service provider survey consists of 32 questions and was divided into three sections: Institutional, Materials, and General. 67 surveys were returned, representing 55 separate institutions. Two service provider surveys did not identify their institution. The 67 respondents represent every province except Prince Edward Island and Saskatchewan. The total number of disabled students attending these institutions is reported to be 22,250. However, there are 55 separate universities and colleges from 67 responses, so an approximate number of students with disabilities attending the 55 institutions is 18,805⁵. Students with print disabilities totalled 4,218, with a total of 3,711 when duplications from multiple service providers who answered from the same institution are taken into account.

The majority of service provider responses came from Ontario (25.76%), followed by Quebec (18.18%), British Columbia (16.67%), Alberta (15.15%), Nova Scotia (10.61%), New Brunswick (7.58%), Manitoba (4.55%), and Newfoundland & Labrador (1.51%). The type of institutions represented by the 67 respondents is as follows: universities 29 (43.28%), community colleges 20 (29.58%), CEGEPs eight (11.94%), "other" eight (11.94%), and technical/vocational two (2.99%).

Forty-five of the 67 service providers reported that their office was the sole provider or producer of alternate formats at their institution, and 51 reported that they produce alternate format materials 'in-house'. Of these 51, 46 state that their 'in-house' materials are produced in the disability service centre, while 10 state the print shop produces the 'in-house' materials. 'In-house' materials produced most often were exams, textbooks, workbooks, assignments and online courses. For those who reported that their alternate

⁵ An area of some concern, and for further research, would be to analyze why most of the institutions which had more than one service provider respondent did not provide the same estimates for student numbers at their institutions.

format materials were produced elsewhere, the results show that RFB&D (31), Resource Centre (28), CNIB (21), and Self-Production (26) were the most prominent. E-text, audio analogue, large print, and Braille were indicated as the formats that are most requested by students as a first preference. The service provider responses paint a picture of complex adaptive technologies, with a range of choices available to the students. However, there remain difficulties with the provision of these materials (in terms of timeliness), and some concerns regarding the quality of certain formats and services (books on tape, tutors). In response to question 27 regarding the overall knowledge of the production of alternate format academic materials, almost 27% of the service providers reported that this “needs improvement”, one-third claimed this knowledge was “average”, 9.5% “good”, 21% “very good”, and around 10% “excellent”.

Most of the service providers provided an extensive quantity of open-ended commentary, on a wide range of issues. From this commentary and the full list of questions (see below), a comprehensive picture of the current state of service provision for students with print disabilities in Canada is provided.

Service Provider Survey

Section A: Institutional Information

1. What type of institution do you work in?

- 29 (43.28%) University
- 20 (29.85%) Community College
- 8 (11.94%) CEGEP
- 2 (2.99%) Technical/Vocational
- 8 (11.94%) Other

Universities and community colleges clearly dominate the response base, accounting for almost 75%. CEGEPs, which are located only in Quebec, post 11.94% of respondents,

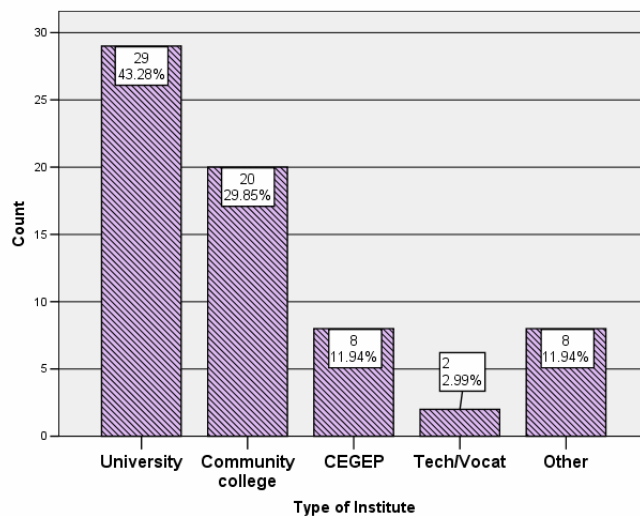


Chart 37: Type of institution

followed by “other”, with an identical share of respondent institutions. Technical/vocational schools are represented by just under 3% of the total responses. Among those who answered “other” for this question, seven indicated they are employed in university colleges – an institution type most common in British Columbia – , two indicated employment in a regional college, one person simply indicated ‘college’ and another provided ‘CEGEP QBC’ as a response.

2. What is the [name, and] province/territory, of your institution?

Chart 38 shows the representation of service providers by province: Ontario 17, Quebec 12, British Columbia 11, Alberta 10, Nova Scotia 7, New Brunswick 5, Manitoba 3, Newfoundland and Labrador 1.

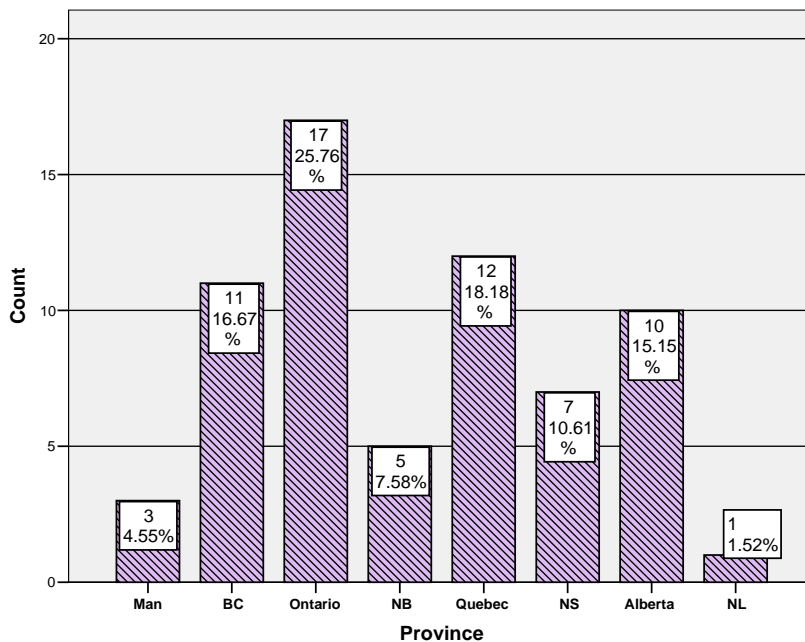


Chart 38: Province of institution

In order to protect anonymity of service provider respondents, we are not publishing the names of schools in this report.

		Province								Total
		MB	BC	ON	NB	QC	NB	AB	NL	
Institution	Univ	2	3	10	4	3	5	2	0	29
	Comm Coll	1	4	6	1	0	2	5	1	20
	CEGEP	0	0	0	0	8	0	0	0	8
	Tech/Voc	0	0	1	0	0	0	1	0	2
	Other	0	4	0	0	1	0	2	0	7
Total		3	11	17	5	12	7	10	1	66

Table 22. Type of institution by Province

The meaningful statistics to emerge from this table show that in Ontario, only one technical/vocational school responded, and that in Alberta, half of the responses came from community colleges. CEGEPs are limited to Quebec, so that number of schools of this type is not surprising. The category “other” primarily represents university colleges, which is a description of post-secondary institutions in BC. Overall, universities represent 44% of institutions represented in the service provider survey. Community colleges represent 30%, CEGEPs 12%, technical/vocational represent 3% of institutional responses, and “other” accounts for just over 10%.

3. Estimate how many students who require disability-related accommodations attend your institution?

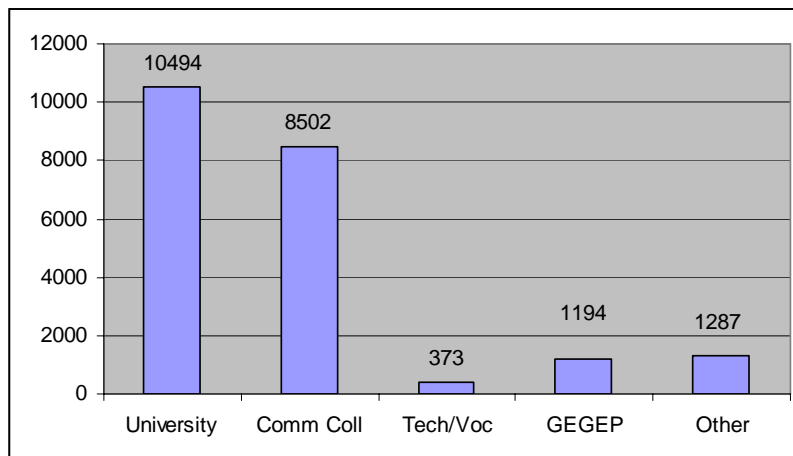


Chart 39: Students with disabilities

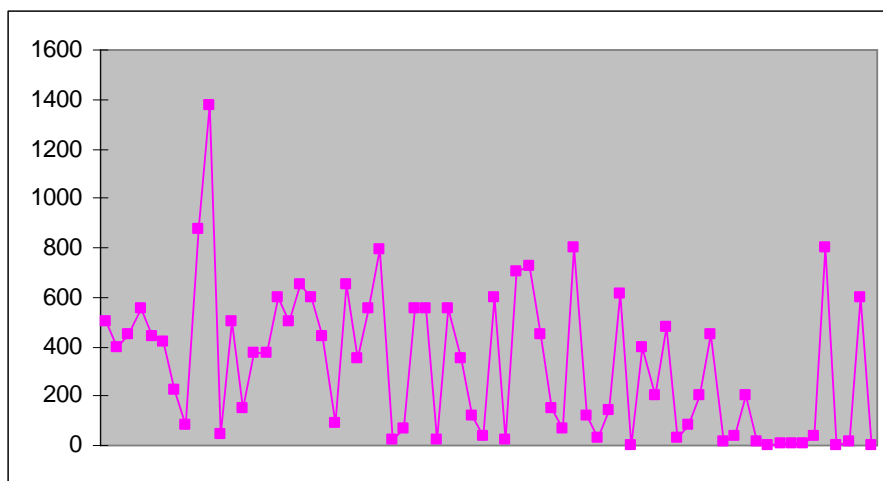


Chart 40: Total numbers of students with disabilities

The numbers provided in response to this question range from a low of two applicable students at a single institution to a high of 1,376. The following table displays the breakdown by province.

MB	1675
BC	4304
ON	8806
NB	427
QC	1725
NS	1928
AB	3350
NL	15

Table 23. Students with disabilities by province

The three largest groups, as reported by the service providers are Ontario, with 8,806 students with disabilities, British Colombia with 4,304, and Alberta with 3,350.

4. How many students with print-based disabilities are registered with your office?

The breakdown of province by students with print disabilities is as follows:

MB	24
BC	229
ON	630
NB	90
QC	628
NS	999
AB	1086
NF	5

Table 24. Students with print disabilities by province

According to our respondents, Alberta, New Brunswick, and Quebec have a higher proportion of students with print disabilities amongst the student population with disabilities. An interesting comparison can be made in terms of the numbers of students with print disabilities as a percentage of the overall students with disabilities population reported by the 67 service providers representing 55 schools.

	All Disabilities	Print Disabilities	% Print Disabilities
MB	1675	24	1
BC	4304	229	5
ON	8806	630	7
NB	427	90	21
QC	1725	628	36
NS	1928	999	52
AB	3350	1086	32
NF	15	5	33

Table 25. All disabilities and print disabilities by province

The provinces of Ontario, Manitoba, and British Columbia reported a lower print disability student percentage than all others. New Brunswick, Newfoundland and Labrador, Quebec and Nova Scotia each have between 21% and 36% students with print disabilities. By far the largest number of represented students with print disabilities is in Nova Scotia, where 52% of the student population with disabilities have a print disability. It should be noted here that just under 49% of our student respondents were studying in Ontario.

5. Is your office the sole provider or producer of alternate format materials in your institution?

A large proportion of service providers answered that their office was the sole supplier of alternate format material. Our survey indicated that 67.16% of post-secondary institutions are the sole suppliers, whereas 32.84% are not.

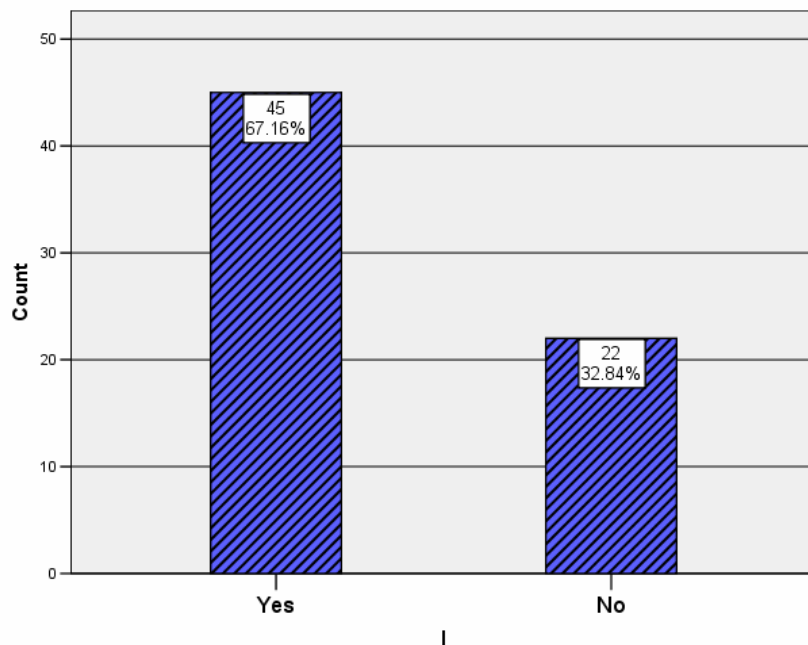


Chart 41: Offices as sole providers of alternate format materials

Of those who are sole suppliers, 20 are universities (44%), 14 are community colleges (31%), three are CEGEPs (6%), two are technical/vocational institutions (4%), and six are “other” (13%). By province, the breakdown of those service providers who report that their institution produces in-house alternate format academic materials is as follows: Ontario 11 (24%), British Columbia 9 (20%), Alberta 8 (17%), Quebec 7 (15%), Nova Scotia 4 (8%), Manitoba 3 (6%), New Brunswick 2 (4%), and Newfoundland & Labrador 1 (2%). It is important to note that the question asks about provision and production.

Several write-in answers were provided for this question, suggesting other bodies that offer alternate format services. Most commonly cited were libraries, interlibrary loans and other academic departments. A small percentage of respondents indicated they obtain materials through provincial organizations such as CILS in British Columbia and the W. Ross MacDonald School in Ontario.

Service providers in the Maritimes indicated reliance on several different institutions, in addition to their own school, for alternate format materials. A community college in Nova Scotia indicated they provide services in partnership with the province’s department of education, while a Nova Scotia university respondent said the Atlantic Centre of Support for Disabled Students helped with the provision of alternate format materials. One university respondent in New Brunswick mentioned they obtain materials specifically from the University of Montréal library.

In Quebec, an array of different answers was also offered. Specifically, a division between CEGEPs in the east and west of the province was mentioned, with those in the west using the services of CEGEP du Vieux Montréal and those in the east obtaining materials from CEGEP du Ste. Foy. Several respondents indicated the use of one or the other of these institutions. Braille Jymico and SQLA were also mentioned as service providers for alternate materials in the province.

6. How many of the following people work in the disability services office or department?

This table shows all responses to the question of staffing in the disability service offices.

Full Time	Part Time	Volun- teer	Paid Student
14	20	0	15
3	0	0	0
3	2	0	3
4	1	1	0
6	2	6	3
1	1	0	4
3	1	.	5
2	1	.	4
8	2	0	4

Full Time	Part Time	Volun- teer	Paid Student
1	.	.	5
4	25	.	.
40	.	.	7
5	14	.	.
6	13	.	1
5	15	.	1
.	2	.	.
1	.	.	5
1	.	.	.

1	3	.	20
1	1	.	.
1	.	.	.
2	1	.	1
1	4	.	1
8	10	.	.
3	3	.	6
6	2	50	1
1	2	12	.
3	2	.	3
3	1	.	.
2	2	0	4
3	1	.	12
7	1	10	3
13	1	.	14
40	.	.	7
8	3	.	.
4	1	1	.
9	1	0	3
6	.	.	40
2	3	1	4

1	1	.	2
1	2	.	1
13	.	.	2
1	2	.	2
1	1	.	1
1	20	.	10
.	1	.	.
1	.	.	2
4	1	6	5
5	1	.	.
1	.	.	.
3	.	.	.
3	7	24	12
1	.	.	8
.	2	.	.
2	1	.	3
1	.	.	.
1	.	.	.
7	5	.	15
16	3	1	2
1	.	1	.
168	72	81	157

Table 26. Complete list of staff/volunteers

From the accompanying graphic charts it can be deduced that there is no 'typical' profile for any of the disability services in terms of staffing. There is a wide range of numbers given for each category. The highest for full-time is 40, while most schools indicate full-time staff of one-six. The highest for part-time for one institution is 20, while the average is in the one-five range. For volunteers there is a high is 50 to a low of zero. Paid student employees range from a high of 40 to a low of zero. Most service providers employ one-five paid student employees, likely through the Work Study program.

In addition to the answer options provided for this question, a respondent from an Alberta technical school indicated the institution contracted with 15 service providers.

Provision of Alternate Formats

7. How is the provision of alternate format materials funded?

- 6 (9.52%) Internal sources
- 16 (25.4%) External sources
- 40 (63.49%) Both
- 1 (1.5%) Not applicable

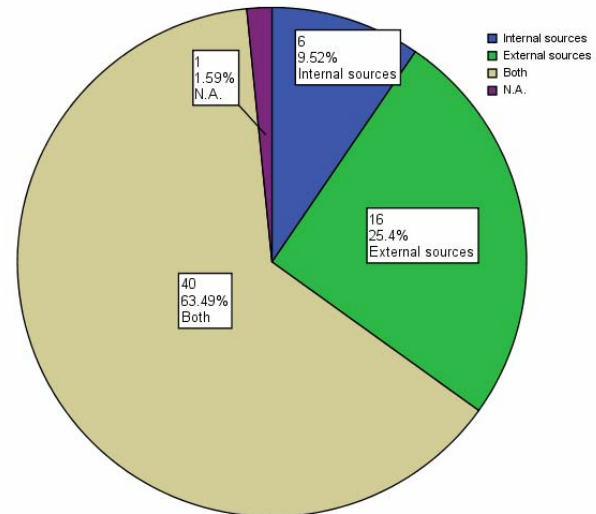


Chart 42: Funding for alternate formats

Almost two-thirds of service providers report that their funding comes from both internal and external sources. One-quarter report that funding comes from external sources, and almost 10% indicate internal funding. One service

provider chose 'not applicable', and five did not answer the question. British Columbia, Alberta and Ontario have the highest proportion of funding coming from both internal and external source (of the provinces with large response rates). Two-thirds of Quebec service providers report that their funding for alternate formats is received from external sources.

		Internal	External	Both	NA	TOTAL
Province	MB	0	1	2	0	3
	BC	1	2	8	0	11
	ON	3	3	9	1	16
	NB	0	1	4	0	5
	QB	1	6	3	0	10
	NS	0	3	4	0	7
	AB	1	0	8	0	9
	NF	0	0	1	0	1
Total		6	16	39	1	62

Table 27. Funding for alternate formats by province

All relevant responses from Quebec service providers indicated that the provincial ministry of education provided funding for the production of alternate format materials. A university service provider indicated the institution has used ministry funding for various alternate format production-related expenses, including hiring a volunteer coordinator, and the purchase of technology such as scanners, alternate format software and MP3 players. One college in the province made the distinction that the ministry funds production of alternate format materials for students with visual disabilities, while the college itself funds production of materials for those students with learning disabilities.

A respondent from an Alberta technical school mentioned that the institution covers costs associated with alternate format materials when external funding is not available or is insufficient. At a university college in British Columbia, an internal student employment program provides staff to help with the production done in-house, while the school accesses an external grant if students need financial assistance to source their own materials. A Nova Scotia respondent indicated government funding was accessed through the department of education, under the LMAPWD Federal-Provincial agreement.

8. Does your institution produce in-house alternate format academic materials?

A large majority of respondents (77.27%) indicated that their institution does produce in-house alternate formats, with 23.73% responding that this isn't the case at their institution. Table 28 shows the number of institutions per province that produce in-house and the percentage that these institutions represent from the overall provincial numbers of institutions responding.

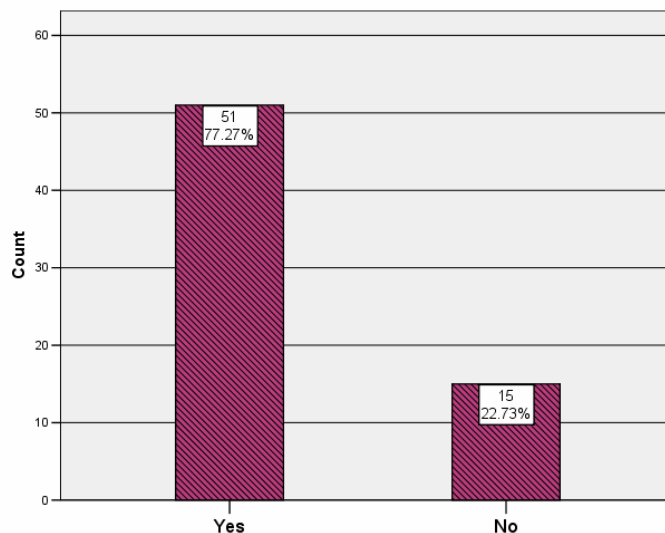


Chart 43: Production of in-house alternate format materials

Prov.	Number	%
MB	2	67
BC	9	82
ON	14	82
NB	3	60
QB	6	50
NB	7	100
AB	8	89
NF	1	100

Table 28. Provinces that produce in-house alternate format materials

In the open-ended section of this question, one Ontario community college respondent indicated their institution produces “any material requested”. Another institution primarily produces course packs, “after the student has purchased the print copy and the bookstore has sent us the electronic copy.” A Quebec college service provider said their institution produces lecture notes in alternate formats, while an Alberta technical school mentioned in-house production of handouts.

One Quebec university respondent expressed concern with course pack production at their institution, writing, “We need to go further with course packs. Our bookstore has been helpful, but we still find that PDF files are a problem in terms of access.”

If yes, which of the following do you produce?

34	Assignments	6	other
45	Exams	5	Print periodical indexes
7	Supplemental readings	3	Web resources
27	Online courses	9	Course packs
10	Online databases	21	Audio Visual resources

Chart 44: In-house materials produced

Clearly, exams and textbooks are most often produced. The statistics reveal a big gap 'beyond the textbook' especially for accommodations for supplemental readings, online courses, databases, periodical indexes, Web resources and coursepacks. This, it could be argued, shows the need for more information, training, awareness, and collaboration between service providers and librarians.

9. Where are your in-house alternate format academic materials produced?

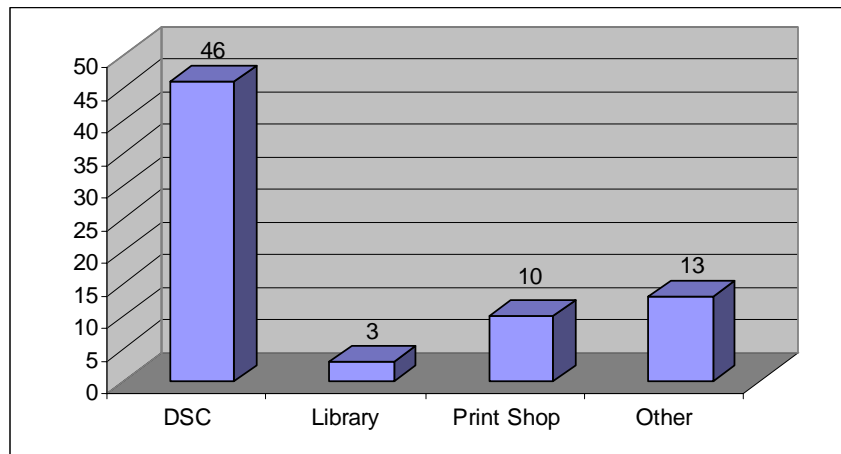


Chart 45: Location of in-house production

The Disability Service Centre is by far the most common place for the production of in-house materials (46). The second largest single response was for the campus print shop (10). The library was reported to produce in-house materials by three respondents, with 13 choosing "other".

Of those who elaborated on "other", a university respondent in Quebec mentioned that service providers at the institution do a great deal of scanning, as well as conversion of materials into MP3 files. However, the respondent added, they encourage students to use their adaptive technology to read file formats "when appropriate and possible." A Nova Scotia college respondent wrote that some students produce materials themselves, using technology received through the Canada Study Grant, while a Newfoundland college produces some material at their institution, and some is produced by local businesses for the college. Finally, an Alberta technical school respondent indicated "some programs have produced materials directly for the student."

10. How would you rate the quality of in-house productions of alternate format academic materials?

Fifty-one (of 67) respondents chose to answer this question (which could be considered a low response rate). Of these, just one reported that they would rate the quality of in-house materials as poor. Twenty said that it was average, twenty-three good, and 7 that it was excellent.

While open-ended responses for this question indicated that, for the most part, service providers are happy with the quality of materials produced in-house, limited resources, staff unfamiliarity with technology and the time involved in production all play a role in reducing the potential quality of such materials.

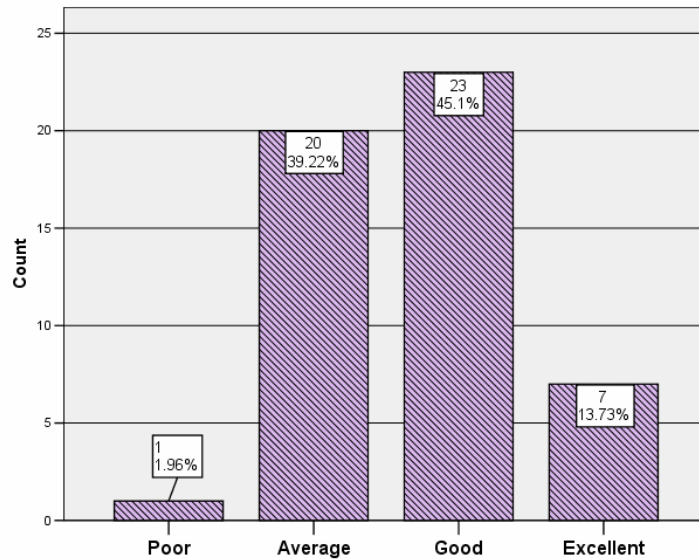


Chart 46: Quality rating of in-house production

One respondent wrote, “We rarely have time for editing properly,” while an Ontario community college respondent indicated, “Exams are perfect, but text and workbooks have OCR errors.” An Alberta respondent expressed satisfaction with the quality of materials, but said that the quantity that needs to be produced in alternate formats poses a problem. Another respondent in that province stated that audio material is currently produced on tape at the institution, and the quality would be better if it was produced in digital format. One area of interest, or concern, is that while 59% responded here that production quality was good to excellent in question 22, only 32% of service providers state that they provide the whole book with illustrations, side bars, etc.

11. How many of the following people are involved in this in-house production of alternate format academic materials?

Full-Time	Part-Time	Volunteer	Paid student
2	2	0	5
.	.	.	.
1	3	0	0
1	0	0	.
.	.	.	.
1	1	0	4
2	.	.	1
.	.	.	.
.	.	.	2
1	1	.	2
.	.	.	.
1	1	.	.
.	.	.	4
1	2	8	1
2	2	8	1
2	3	.	.
.	1	.	3
1	1	5	.
1	.	.	12
1	1	.	3
.	1	.	.
.	.	.	.
.	.	.	.
1	1	2	.
2	14	.	1
.	.	.	.
1	4	.	.

Full Time	Part Time	Volunteer	Paid student
1	.	.	.
1	.	.	.
1	.	5	10
1	2	.	1
1	.	.	.
.	.	.	2
20	.	.	.
3	2	.	1
.	1	.	.
.	2	.	.
.	1	.	.
1	.	.	.
1	.	15	1
13	.	.	.
1	.	1	.
.	10	.	.
1	.	.	2
3	.	.	2
1	.	.	.
2	.	.	.
1	3	.	.
2	.	.	.
1	.	.	.
2	.	.	2
1	.	.	2
1	.	.	.
2	6	.	.

Table 29. Breakdown of those involved in the production of in-house alternate formats, showing all responses.

The above totals indicate 82 full-time staff, 65 part-time, 44 volunteer, and 62 paid students are involved in production on campuses across Canada based on our respondent group of service providers. Only seven respondents reported no staffing for in-house production.

12. If your alternate format academic materials are produced elsewhere, or in conjunction, where do such materials and services come from?

The responses were: 28

Provincial/Territorial/Regional

Resource Centre, 21

Canadian, National Institute

for the Blind, 31 Recording for

the Blind and Dyslexic, 26

Self-production (by the

student), 19 Other.

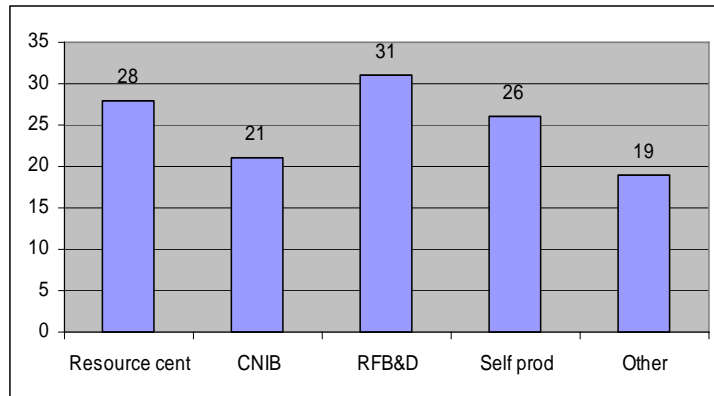


Chart 47: Location of non in-house alternate format production

Respondents could select

more than one choice.

An area of possible confusion

in the responses to this question may be that for those who responded their alternate formats came from, for example, CNIB or RFB&D, these alternate formats could also be coming through the provincial resource centre without the service provider being aware of the source. It is important to note here that Canadians can only get taped books from RFB&D, not current technology such as DAISY books.

A few service providers wrote that materials are increasingly coming from publishers in electronic formats. In Quebec, institutions indicated that private organizations, such as Braille Jymico, produce materials in Braille, while the previously mentioned CEGEP du Vieux Montréal and CEGEP du Ste. Foy were also mentioned here, as were SCLA and SAIDE. The majority of respondents from Ontario providing open-ended responses indicated materials are sourced from the W. Ross MacDonald School, though one respondent mentioned the organization is too slow in providing materials for their students.

RFB&D and CNIB were both mentioned once as sources for alternate format materials, and a Nova Scotia university mentioned that other libraries in provinces that are part of CAER were called upon to provide materials. A Newfoundland & Labrador community college respondent mentioned that text enlarging was done by a "local Mail Boxes

company,” while an Alberta community college obtains some materials from the Edmonton Public Library.

13. What percentage of your budget is allocated for the production of alternate format academic materials?

This question returned the least amount of responses in the entire survey. As indicated in the open-ended comments, there was difficulty in separating the proportion of the budget that went toward the production of alternate format materials from the overall disability services budget. Also, there is a marked discrepancy in the proportion of a budget allocated for this production between the beginning of each semester and the remainder of the academic year. Another factor appears to be that many of the respondents simply had little control over the bookkeeping and accounting aspects of their operation so could not accurately estimate the allocation of resources.

The responses in Chart 48 represent the following percentages (from 0-20%; 6 said 0, 3 indicate 1%, 2% or 3%, 2 indicated 15%; 1 indicated 16%).

Some comments were provided for this question. A college in Quebec commented that the cost involved in production is “negligible, except for man hours,” while an Ontario college respondent wrote, “No idea, we just do it.” A respondent in Manitoba said that

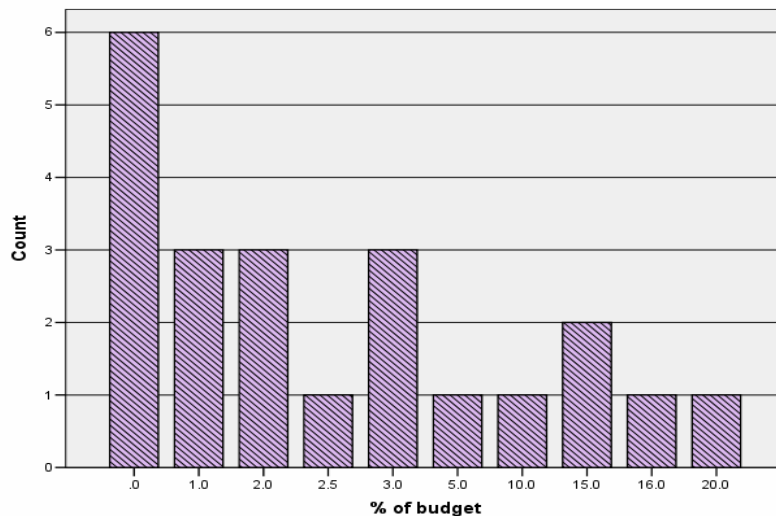


Chart 48: Percentage of budget for producing alternate format materials

some funds for alternate format materials are taken from the proctor budget, and a Nova Scotia community college relies on in-kind partnerships to secure funding. What would be useful in further study is which post-secondary institutions operate with and

without an internal budget for alternate formats and relative impacts of the allocation of resources.

14. What type of training is required and/or given for disability service staff/volunteers who are involved in the production/delivery of alternate format materials?

The amount of training that disability services staff undergo ranges from quick tutorials in programs and software use, to full hands-on training with professionals. What emerges from the survey responses is that the situation, on the whole, is far from uniform or satisfactory. It must be borne in mind, however, that there are quite a variety of experiences in the staff that work at these centres, such that some require only training in the recent technologies, and others new to the field require full training.

While a small number of respondents to this question indicated that no training was provided for staff and volunteers specifically for alternate format production, many noted that in-house training was provided in software and adaptive technology (Kurzweil training being a popular answer), to degrees varying from “some” to “in-depth”. Still others wrote that staff is largely self-taught on alternate format technology. Several institutions noted that the focus is more on training students on the use of adaptive technology, rather than training staff on such things. And this is borne out by students who told us that, for the most part, they receive training.

A respondent indicated that at their institution, “Work-study students are trained on the computer technology and software. We request feedback from the students who are receiving the materials, and then put them in direct contact, so if there are any issues (formatting, software etc.) they can be dealt with directly.”

A CEGEP respondent wrote that staff at the institution were given the opportunity to attend a conference on the production of alternate format materials. A respondent in British Columbia indicated that tutorials were provided for scanning, Braille and audio recordings. At one institution, noted a respondent, an instructional handout was provided to those doing readings on cassette tapes, while more advanced users are shown how to convert files into MP3 format.

15. Who within your institution is responsible for the production and dissemination of alternate format academic materials and information to the students?

A variety of different responses were provided for this question. Many indicated that disability service centre staff are responsible for such activities, either as a team or led primarily by the disability services co-ordinator. Others indicated the work is conducted jointly by the disability service centre and the

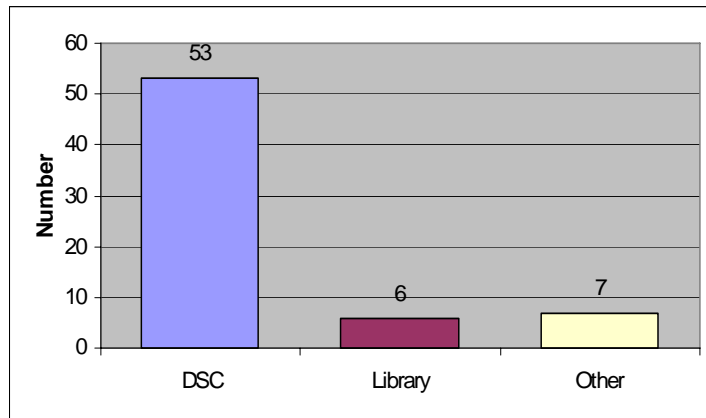


Chart 49: Responsibility for producing alternate format materials

educational institution’s library, with one handling the production of materials and the other responsible for ensuring materials are distributed to students. One community college in Newfoundland relies on a collaborative effort between the disability services co-ordinator and instructors, while a respondent in Alberta stressed that educational departments should bear more responsibility. Finally, one respondent noted “It is our office. But, ideally, it should be a shared activity/function with the library and the bookstore.” We must acknowledge here that British Columbia, Ontario and Manitoba have provincial funding for production of alternate formats.

Fifty-three of 66 responses (80%) reported that the disability service centre was responsible for the production and dissemination of academic material and information in alternate formats. Six respondents (9%) answered that the library was responsible. Lastly, seven (10.6%.) answered that “other” was responsible for this production and dissemination.

Section B: Materials

16. Which alternate formats do your students require most?

This question asked that the respondents rank the most required types in order, from one to five. Most chose to respond only by ranking one to three, with a minority listing the top five. The accompanying five graphs show that the most required format as

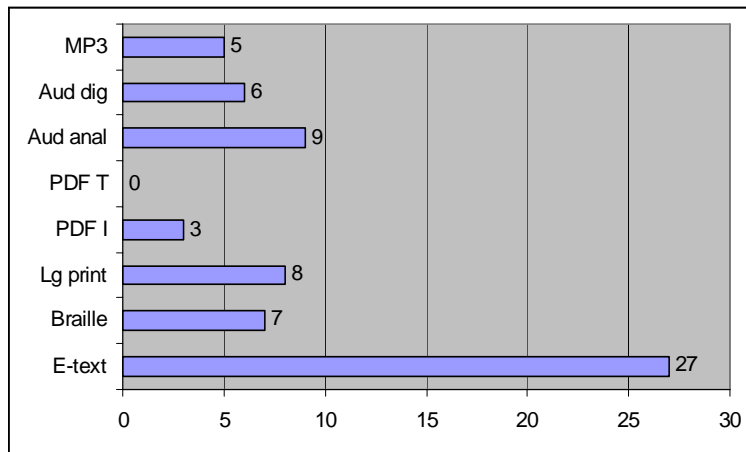


Chart 50: First Most Required alternate formats

indicated is E-text (with 27 of 55 respondents, equals 41.5%), as shown in chart 50.

A few comments were provided in the open-ended space for this question, with a strong tendency toward student need for digital audio/MP3 format. Yet, a few related problems with the acquisition and use of digital audio formats were also indicated. “Unfortunately, we cannot borrow DAISY from RFB&D – which is a real nuisance for academic libraries,” wrote one respondent. Another respondent, from a community college in British Columbia, wrote that many students at the school are not yet familiar with DAISY and digital audio formats, and therefore don’t often request them.

A respondent noted that students with visual impairments could use Adobe Acrobat to read PDF files, since the magnifying glass option in the software allows users to enlarge text directly in the program. Clearly, for those schools that produce materials in-house, the capacity to produce different formats could impact on the identification of most required formats.

The full list of **first preferences** is as follows: E-text 27 = 41.5%, audio analogue 9 = 13.8%, large print 8 = 12.3%, Braille 7 = 10.8%, audio digital 6 = 9.2%, MP3 5 = 7.7%,

PDF image 3 = 4.6%. E-text has by far the highest response rate, at 41.5% it is 27.3% higher than the second highest – audio analogue (13.8%).

The full list of **second preferences** is as follows:

Audio digital 12 = 19.7%, large print 12 = 19.7%, E-text 10 = 16.4%, audio analogue 10 = 16.4%, Braille 6 = 9.83%, MP3 4 = 6.55%, PDF image 4 = 6.55%, PDF text 2 = 3.27%, DAISY book 1 = 1.63%. Responses to the DAISY category may be low because it is a newer standard or format.

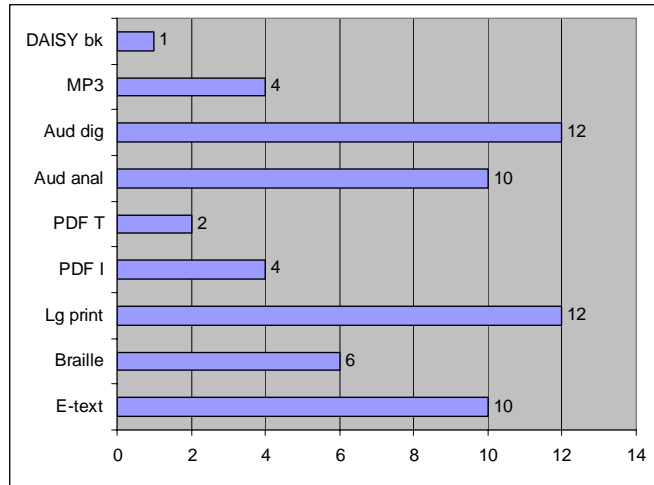


Chart 51: Second Most required alternate formats

Third Preference

Large print 10 = 17.5%, MP3 9 = 15.78%, audio analogue 7 = 12.28%, E-text 6 = 10.52%, PDF image 6 = 10.52%, audio digital 5 = 8.77%, Braille 5 = 8.77%, DAISY book 4 = 7.01%, PDF text 4 = 7.01%, tactile graphics 1 = 1.75%.

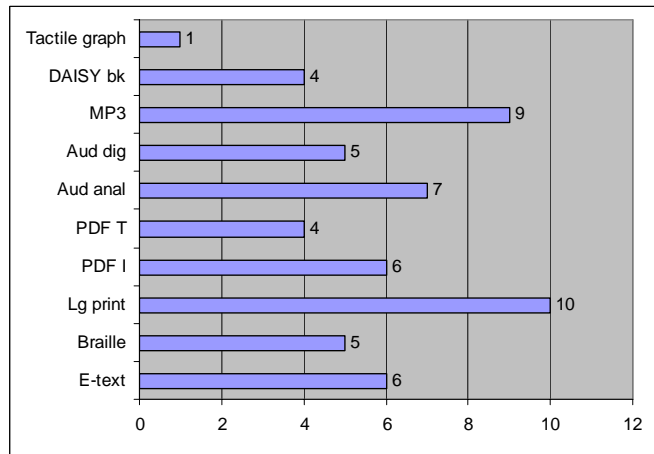


Chart 52: Third Most required alternate formats

Fourth Preference

Braille 8 = 20%, large print 7 = 17.5%, MP3 6 = 15%, DAISY book 5 = 12.5%, PDF image 4 = 10%, audio analogue 3 = 7.5%, PDF text 3 = 7.5%, descriptive video 2 = 5%, audio digital 1 = 2.5%, other 1 = 2.5%.

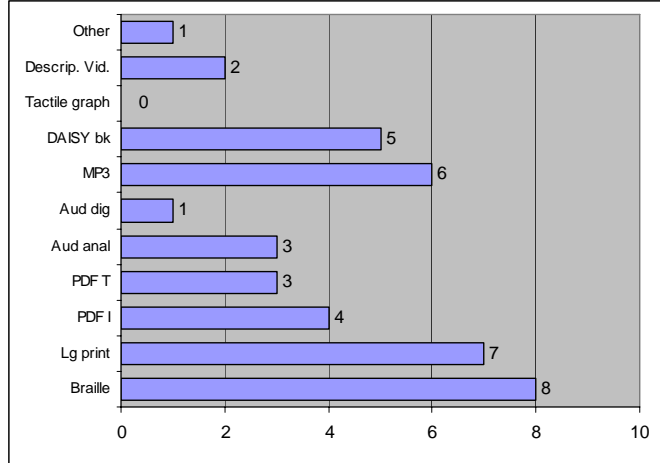


Chart 53: Fourth Most Required Alternate

Fifth Preference

Braille 8 = 20.51%, large print 6 = 15.3%, PDF text 6 = 15.3%, PDF image 4 = 10.25%, tactile graphic 4 = 10.25%, audio digital 3 = 7.69%, MP3 3 = 7.69%, DAISY book 2 = 5.12%, E-text 2 = 5.12%, audio analogue 1 = 2.56%.

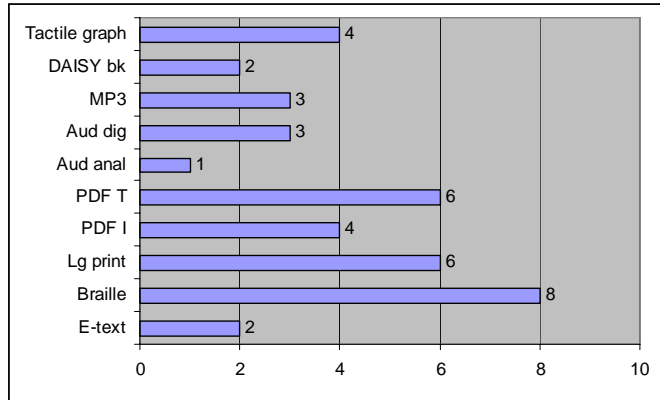


Chart 54: Fifth Most required alternate formats

Braille is the highest of the fifth choices for students. While Braille is considered the preferred choice for some blind/visually-impaired students, increasingly these students use electronic formats. Of course the preference for Braille as a format will be relatively low as only blind students use Braille texts.

17. Which alternate formats do you have most success in providing? Ranked 1-5.

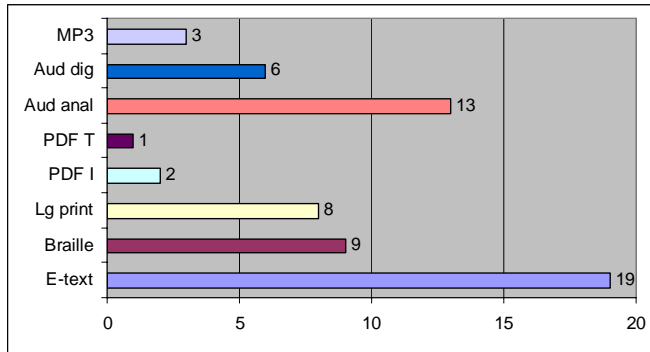


Chart 55: Success in providing alternate formats, First

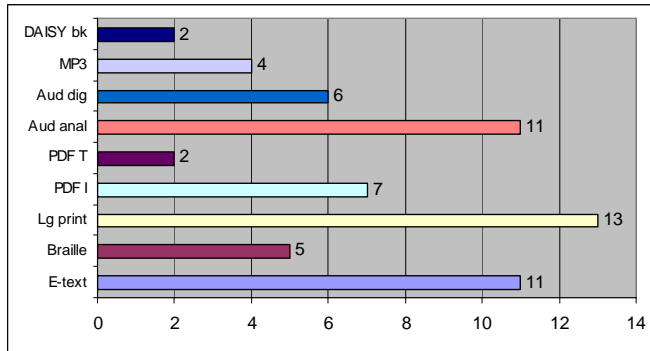


Chart 56: Success in providing alternate formats, Second

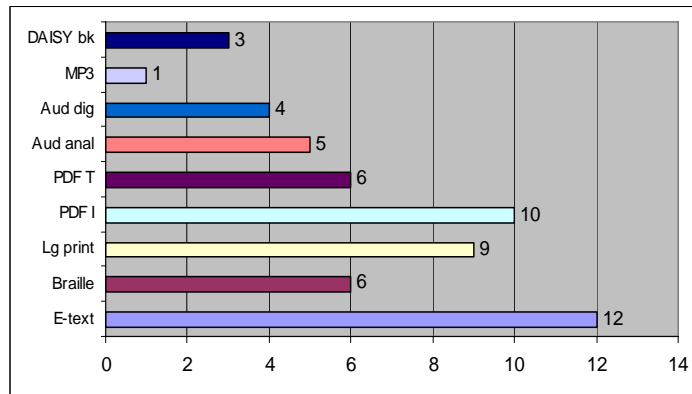


Chart 57: Success in providing alternate formats, Third

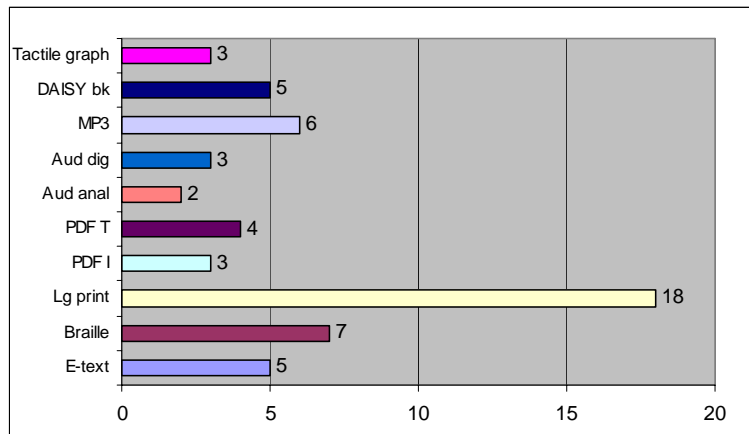


Chart 58: Success in providing alternate formats, Fourth

Service providers have the most success in providing documents in E-text, with audio-analogue, Braille and large print close behind.

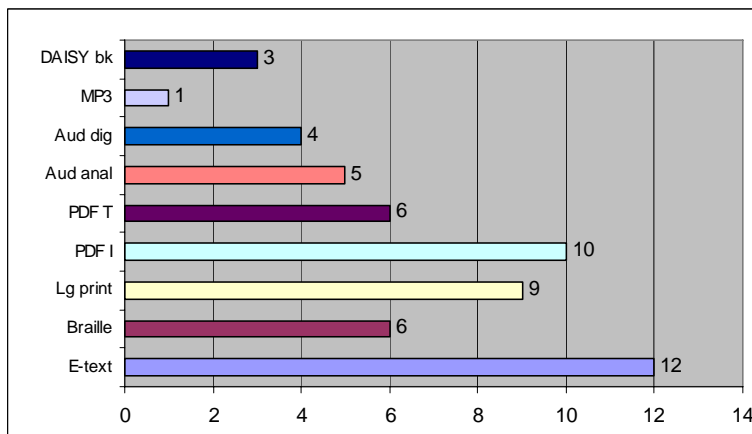


Chart 59: Success in providing alternate formats, Fifth

Open-ended comments are interesting. A British Columbia community college respondent noted that the school produces textbook materials, but only in cases where the provincial service cannot provide them in a timely manner. They also produce limited amounts of material in Braille, in the rare instance when students make such requests. But the respondent added the school is not equipped to produce DAISY books.

An Ottawa respondent mentioned their institution hopes to be able to produce DAISY and digital audio materials in the future. The respondent also noted that copyright laws limit large print reproduction capabilities.

Copyright Information

Some of the following questions on copyright were also asked in the student survey. They are analyzed in greater detail in the section entitled “Dual Questions”.

18. Are you aware of your rights to produce alternate formats relating to the exceptions for persons with perceptual disabilities under the Canadian Copyright Act?

It has emerged from this survey that the issue of copyright is one of the most critical areas in the production of alternate format academic materials. In question 18, 68% of service providers reported that they are aware of their rights. Of those 21 respondents who were unaware of their rights, representing some 31% of all respondents, the following may be noted: around a quarter of universities and community colleges reported unawareness of their rights. The technical/vocational statistics are too low to really discern a trend, but the CEGEPs report a substantial 62.5% unawareness of copyright rights pertaining to alternate format academic materials.

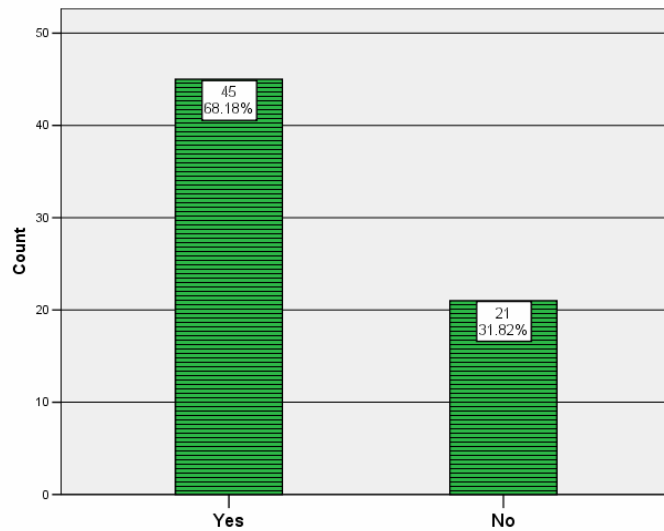


Chart 60: Copyright awareness and production of alternate formats

	Yes	No	Total	Percent
University	22	7	29	24.1
Comm Coll	14	5	19	26.3
CEGEP	3	5	8	62.5
Tech/Voc	1	1	2	50.0
Other	5	3	8	37.5
Total	45	21	66	31.8

Table 30. Awareness of copyright rights and institution

In the comments section of this question, one respondent indicated their understanding is that materials cannot be reproduced in larger formats, according to the law. Another respondent indicated knowledge that if the service centre receives electronic copies of course materials from the bookstore, students who need alternate formats must prove to service providers that they have purchased a print copy of the material. Another respondent wrote that while disability service providers there are familiar with the copyright act and its exceptions, other areas within the educational institution weren't as familiar.

19. Are you aware of your responsibilities when producing copyrighted material in alternate formats?

Related to the last question, question 19 asked about awareness of responsibilities regarding the production of alternate format academic materials. The figures are almost identical to the previous question, with a difference of just one extra service provider more on the “no” side. The breakdown, therefore, of institution type by awareness of copyright responsibility is also quite similar.

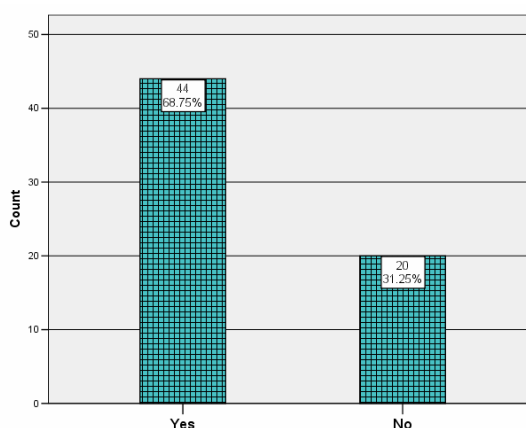


Chart 61: Copyright awareness and producing alternate formats

	Yes	No	Total	Percent
University	22	6	28	21.4
Comm Coll	14	5	19	26.3
CEGEP	3	4	7	57.1
Tech/Voc	1	1	2	50.0
Other	4	4	8	50.0
Total	44	20	64	31.3

Table 31. Institutions and copyright awareness of production of alternate formats

One respondent from British Columbia noted that while they were aware of copyright legalities, they weren't familiar with the need for a rights management statement. A community college respondent also indicated unfamiliarity with rights management statements, wondering where they might obtain samples of such documents. One CEGEP respondent noted that knowledge of responsibilities under the act were "not our responsibility," since the CEGEP Ste. Foy looks after such matters relating to the production of the materials for students.

Of those who indicated familiarity, one Nova Scotia community college respondent said procedural guidelines were in place at the school to ensure adherence to the copyright act. An Ontario community college service provider noted that only students with documented disabilities are granted access to services, ensuring copyright exemptions are only granted to eligible students.

20. Are you aware of your responsibilities for reporting the production of alternate formats and payments of royalties through your institution's Access Copyright Agreement?

Just over 45% of service providers are aware of their responsibilities, close to 55% are not. One respondent wrote about a lack of familiarity with these responsibilities, asking, "Who should we report it to? This has never been addressed. Besides, aren't we covered under the copyright act if the material is not available in an alternative format (except for large print)?" Another respondent, representing an Ontario university, wrote, "We only produce chapters, which don't have to be reported." One respondent noted that the college's library is responsible for adhering to these regulations, and that they "stringently follow rules."

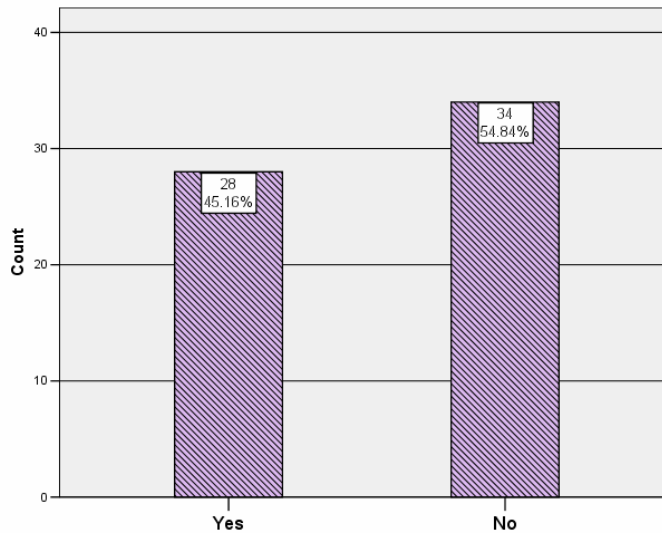


Chart 62: Copyright awareness reporting production of alternate formats

21. What changes, if any, would you like to see in the Canadian copyright law that would facilitate the ability to provide academic materials in alternate formats to the students with print disabilities on campus?

Several suggestions were included in this open-ended question. Of the more than 30 comments provided, roughly 25 percent indicated that publishers should either be required to provide an electronic version of each academic text produced, with purchase, or should be required to supply such a format upon request. A few other respondents simply wrote that publishers need to be made more aware of the needs of students with disabilities.

While four respondents voiced a desire to see students with disabilities granted complete exemption from the copyright act, a larger percentage of respondents wanted to see exemptions made for certain types of alternate formats. Four people indicated a desire to see large print reproduction included in the exemptions, while two respondents wanted to see reproduction of materials into close captioned video be allowed. Another wrote that electronic text reproduction under the individual use exemption should not be limited to just a portion of a text, while one person said that students should be allowed to use a scanner to scan chapters as needed. Two people mentioned that exemptions should be made for course pack production.

Two service providers expressed interest in seeing certain aspects of the current act clarified. One respondent wrote, "I'd like to be clear where we stand when dealing with books published in the U.S. and how we can get at Canadian versions in a timely manner to assist students as they register for courses," and another requested a clear definition of the concept of individual fair dealing for academic purposes. One respondent wanted the inclusion of all print disabilities within the "Canada Post 'Blind Post' mailing exemption."

Finally, three respondents indicated the need for a national clearinghouse or database of alternate format resources, and all suggested this to be co-ordinated through the National Library of Canada, or Library and Archives Canada, as it is now known.

It would appear, then, that the overall points to stress from these comments is that there exists a dire need for action from publishers. Some publishers of texts are seen as preventing many students from gaining access to academic materials in alternate format, or, at the least, their actions are a hindrance to the dissemination of such information. Also, issues arise with regard to copyright, which, it is suggested, must be altered so as to allow the reproduction of certain types of alternate formats. There is also a need for greater clarity in relation to the copyright act and exemptions for students with print disabilities.

22. Does your institution produce a complete alternate version of the textbook (or other materials) in alternate formats (including charts, graphs, sidebars etc.)?

Over two-thirds of service providers stated that their institution does not provide a complete version of the texts in alternate format. This is mollified somewhat by respondents that claimed in the open-ended comments that they would do so if requested, but do not normally. Of interest here is the response rate from question 19 in the student survey, where some 53% of respondents stated that their institution does provide complete alternate versions of texts. There is a large discrepancy here, with some 33% of service providers stating that they provide complete versions, a difference of 20%.

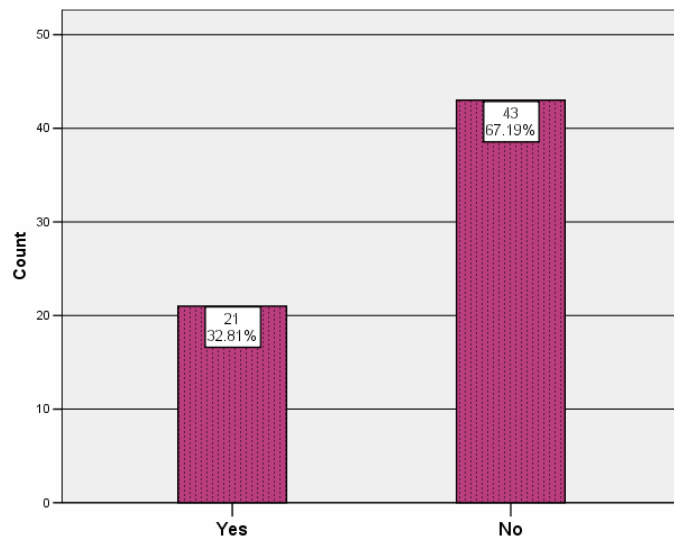


Chart 63: Production of complete version of texts in alternate formats

Of the comments provided for this question, the majority of service providers indicated that complete textbook reproductions are generally not done in-house, but there are exceptional cases. One respondent offered an example of such an exception, writing, "Normally we don't – unless the alternative format is late and the student needs material ASAP (but we don't provide the whole text, just the needed sections). For example, if

we are waiting for a Braille text, and it is late with a certain chapter, we will provide a part of the chapter and some charts for the student, especially if the material is mandatory for a text, exam, paper, etc.” At another school, texts are reproduced in-house when the total page count does not exceed 300 pages. In another instance, it was suggested that in-house reproduction is completed if no other source exists for the desired alternate format, while another respondent noted “We will do so if it is requested.”

At other post-secondary institutions, complete reproductions are done in-house into certain formats. For example, one respondent noted that reproductions can be done in-house with Kurzweil 3000 software. Another respondent noted their institution offers in-house production of texts into large print, as well as offering audio descriptions of charts and graphs. One respondent wrote that workbooks can be put into PDF format and burned onto a CD-ROM for students to use. Kurzweil 3000 is designed for print impaired students who are sighted, and therefore not necessarily useful for students with visual impairments. PDF formats also pose a problem for students with visual impairments, because an institution is reporting that productions are available does not mean that it is in a usable format for all students with print disabilities.

23. Roughly, how many hours per day does staff spend producing or co-ordinating alternate format academic materials and services?

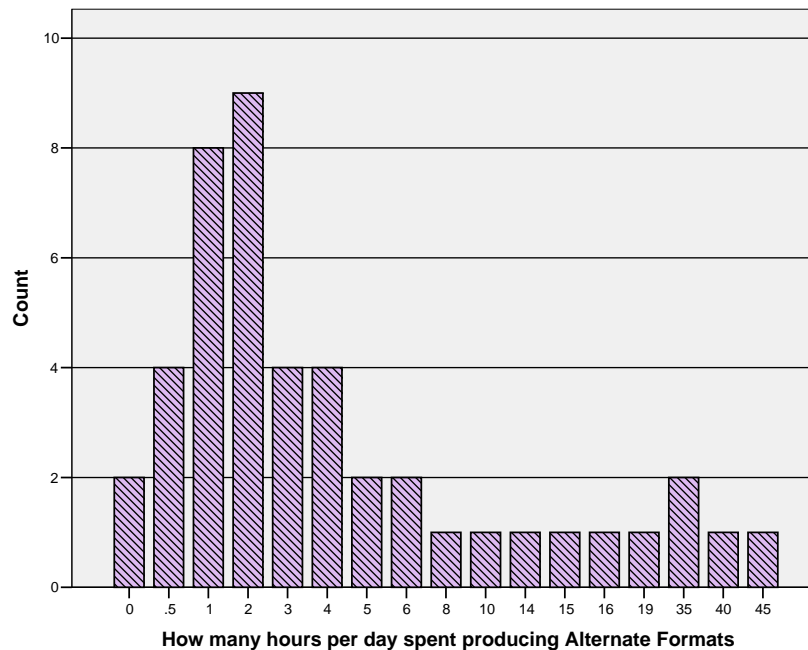


Chart 64: Hours spent producing/co-ordinating alternate format materials

Service providers appear to have difficulty in answering this question, due in large part to the complex nature of breaking down hours spent doing different tasks at their offices. There is a large amount of scanning required at certain times, such as the beginning of a semester and exam time.

The following issues were raised in the comments provided:

- One respondent indicated their institution produced 31,209 pages last year, a commitment of 2,522 production hours.
- Another indicated a commitment of 30 hours per semester.
- A British Columbia university college service provider said 100 hours per semester were spent in such activities.
- An Alberta technical school respondent offered that the time commitment “increases dramatically at start of term”.
- A British Columbia community college respondent wrote, “This depends on the current need and whether we have received materials through CILS. We did not receive any newly produced texts for students at one campus this semester so the hours were quite high, I would guess about 20 per week.”

24. Roughly, how many hours per day do staff spend scanning and editing academic materials for alternate formats?

The most common response was one hour of scanning time, which eight institutions chose. This question had a particularly low level of response; often due it is claimed, to the complex nature of the financial operations of the disability service centres in calculating

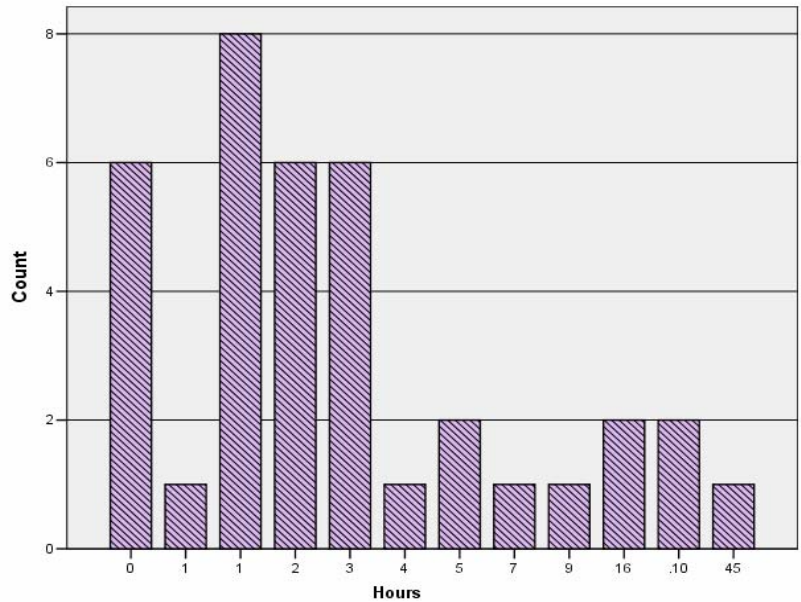


Chart 65: Hours spent scanning alternate format materials

costs to specific services. Many staff responded in the

open-ended comments that they simply could not separate a scanning budget from the overall budget.

As with the previous question, one respondent noted that more time was spent on this activity at the start of a semester. A British Columbia university college respondent estimated 50 to 60 hours per semester were spent scanning and editing, while another indicated 10 hours per semester was the likely timeframe. Two others noted that these activities were the responsibility of other parties, with one indicating that CILS in BC takes on the tasks, and another respondent saying each student is responsible, once they have been trained on the equipment. Production of alternate format materials can be very time-consuming, depending upon the number of students served and the types of academic materials and formats required. It may be more economical and efficient to have a central agency do the production providing the central agency has the expertise, staff, equipment and knowledge of standards. Getting back to the issue of timeliness, if the identification of resources is not timely, it doesn't matter where the production is done, it can't be done on time.

25. Prior to production, do you verify whether a 'title' is already available (in house or elsewhere, e.g. AMICUS) in an alternate format?

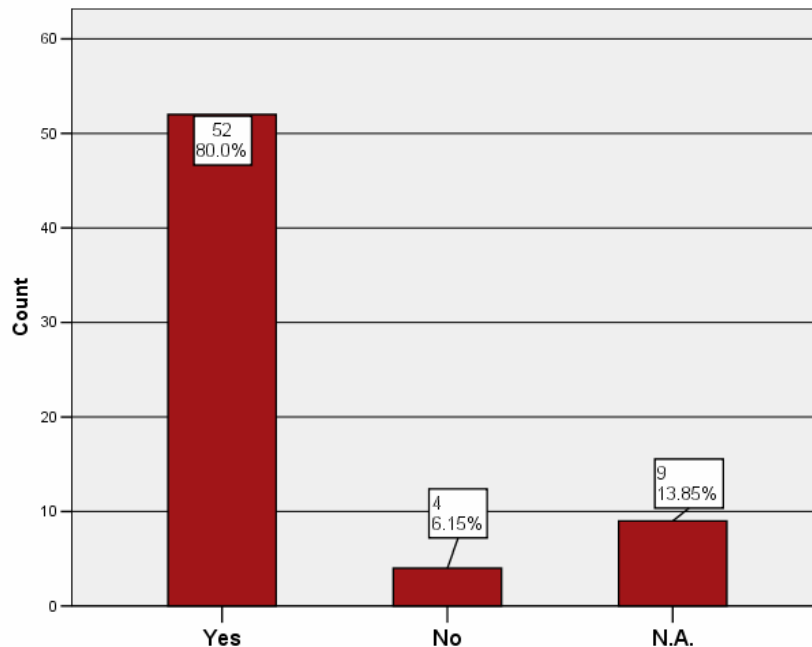


Chart 66: Verification of existing titles

Eighty percent of service providers state that they do check to see if a title is already available in alternate format before they begin to produce it, whereas just over 6% say that they do not, and around 14% state that the question is not applicable. Of those four (6.15%) institutions that do not check the availability of alternate format productions prior to production one is in Alberta, one in Manitoba, and two in Quebec. Furthermore, of the five New Brunswick service providers who responded to this question, four state that this prior checking is not applicable, yet in question 8 all seven New Brunswick service providers stated that they do produce in-house academic materials in alternate format.

One respondent noted that service centre staff ask the campus bookstore to check on title availability, while a British Columbia university college respondent said they verify that information with CILS. Still another service provider said their institution checks with CNIB, RFB&D and Braille Jymico before considering producing titles themselves.

RFB&D was noted by two other respondents, as well. An Alberta community college respondent wrote, "a few years ago we checked every request against the RFB&D holdings and had no matches so we decided to stop that activity for a while", while an Ontario community college respondent noted that they check with publishers, as well as "sometimes RFB&D." One respondent noted that while they do seek to verify availability, they had never heard of AMICUS.

Section C: General Questions

26. Are there any barriers that prevent you from maximizing your services to students with print disabilities?

Just a quarter of respondents report that there are no barriers. Almost exactly three-quarters state that there are barriers that prevent them from maximizing their services. This is a large and worrisome number. The second part of this question asked participants to identify the barriers.

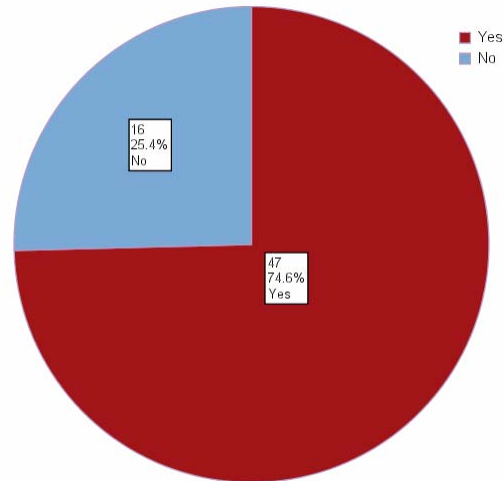


Chart 67: Barriers

If yes, what are they? Check all that apply.

Clearly, issues of funding and of equipment are the biggest barriers to delivering academic materials to students, with delays cited next. The majority of answers in the comments provided alluded to the fact some instructors choose course

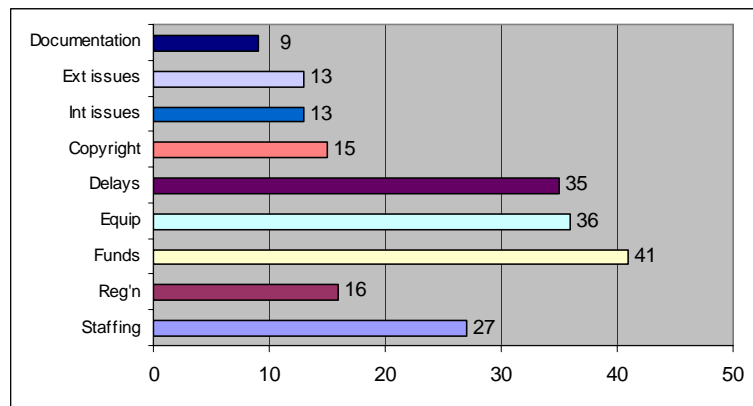


Chart 68: Barriers listed

reading materials fairly late in the semester planning process, thereby reducing the amount of time disability service providers have to reproduce materials into alternate formats. One Quebec respondent added that sometimes it is the students themselves that do not provide sufficient advance notice for alternate format requests. Another related roadblock cited is that students must wait to obtain funding for alternate format materials, which sometimes does not arrive until classes have already begun. Another

concern raised relating to course materials is that course packs sometimes contain what one respondent termed “illegible articles.”

Three respondents cited concerns with having to deal with external agencies for alternate format production. One British Columbia university college respondent wrote that the provincial external agency is unable to keep up with the demand for alternate format materials, while an Ontario service provider pointed to the money and time required to deal with outside agencies as problematic. One respondent noted that RFB&D won’t send electronic format texts to Canada, which limits the easy availability of materials in such formats.

Finally, three respondents pointed to a lack of availability of electronic files from publishers, which affects how quickly texts can be obtained for reproduction into alternate formats.

27. As a service provider or librarian, how would you characterize your level of knowledge regarding the production of alternate format academic materials?

From question 8 in this survey it was ascertained that some 77% of responding service providers’ institutions produced in-house alternate format materials. From such a rate, it is therefore all the more important that 27% state that their knowledge of the production of alternate format materials needs

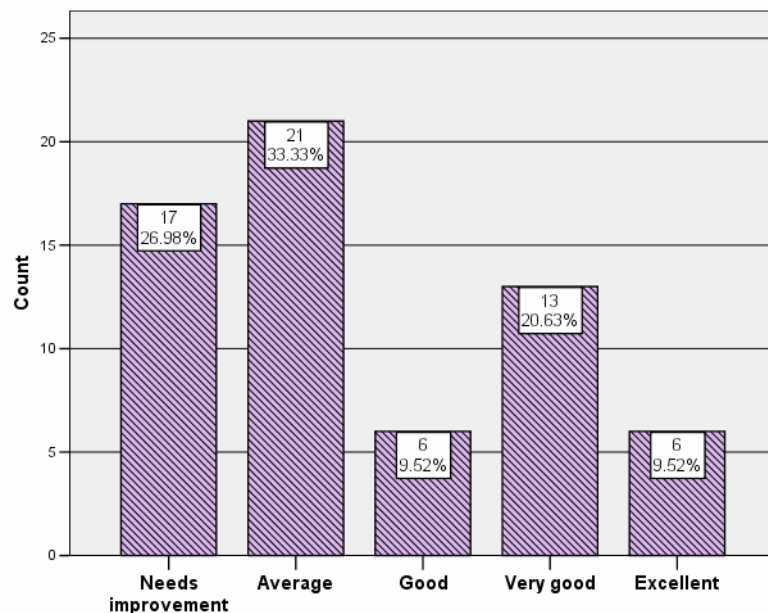


Chart 69: Knowledge of the production of alternate format materials

improvement. It is an area that the service provision professionals must address. One-third of the service providers state that this knowledge is average, 9.5% that it is good, 20% very good, and 9.5% state that their knowledge of the production of alternate format academic materials is excellent. Overall, around 40% report a good, very good, or excellent knowledge, and approximately 60% report a 'needs improvement-average' range of knowledge.

One university respondent wrote that the department that deals with alternate format provision has existed at the school since 1990, yet the current staff has only been together for one year. Despite this, they have consulted with similar institutions in North America for advice and assistance. While this respondent feels they are doing a very good job, a comment is provided, "It could always be better."

Another respondent indicated, "I have a reasonable knowledge of the technologies used and needed. I feel that my legal knowledge is incomplete." Legal implications were also cited by another service provider, who wrote, "copyright laws are often bothersome."

28. As a service provider or librarian, how would you characterize your level of knowledge regarding the availability of alternate format academic materials?

In question 25, it was stated that 80% of service providers who produce in-house alternate format academic materials check availability from other services prior to in-house production. In the above question, we asked about their knowledge regarding the availability of alternate format

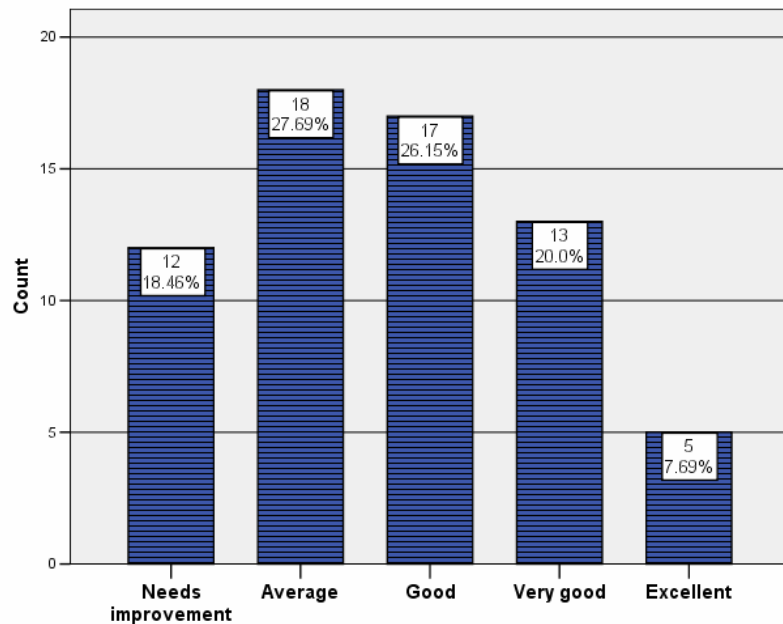


Chart 70: Knowledge of availability of alternate format materials

academic materials. The responses state that 18.5% need improvement in this regard, almost 28% see their knowledge as average, 26% as good, 20% very good, and 7.7% as excellent. The breakdown of the sliding scale is as follows: some 46% report a knowledge in the range of ‘needs improvement–average’, and 54% are in the ‘good-very good-excellent’ bracket.

The one open-ended comment provided for this question notes, “It would be nice to have better access to international material and more French language material (including DAISY from RFB&D). I am working on creating connections with services in Quebec.”

A brief comparison of Questions 27 and 28 is seen in Table 30 below.

	Knowledge of Production	Knowledge of Availability
Needs Improvement	27%	18.50%
Average	33%	27.70%
Good	9.50%	26%
Very good	20.60%	20%
Excellent	9.50%	7.70%

Table 32. Knowledge compared

29a) Is there a process for the evaluation of production of alternate format materials at your institution?

For this question the responses are 18.7% yes, 64% no and 17% not applicable. Of the 11 N.A. responses, six came from universities, one from a community college, and four from a technical/vocational institution. Slightly under two-thirds of service providers responding report that there is no process to evaluate

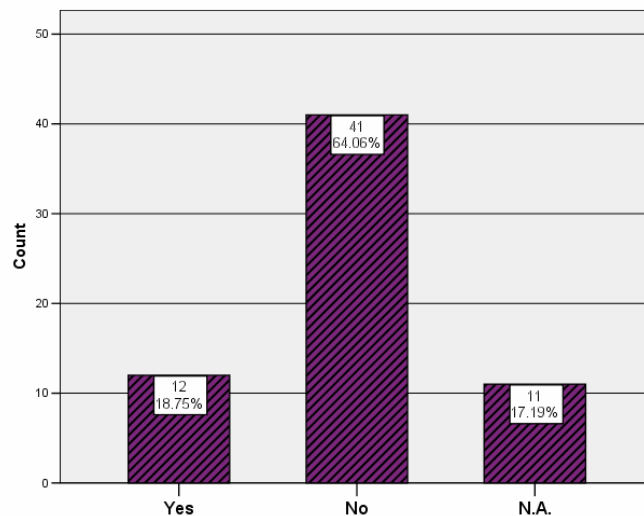


Chart 71: Process of evaluation

production of alternate format materials. This is an area that service providers might wish to examine more closely, and perhaps set a process in motion where evaluation standards are designed and implemented.

Three people noted that student feedback is solicited, whether formally through surveys, or informally. One Quebec respondent wrote that no evaluation process exists at their institution, but “we need such a procedure.”

29b) If yes, who is responsible for the evaluation of alternate format production and delivery carried out at your institution?

At one institution, the director of student services undertakes this responsibility. A Nova Scotia community college respondent wrote that the Department of Education oversees production evaluation.

30. Is World Wide Web accessibility for students with print disabilities being addressed at your institution?

Seventy-three percent of participants state that Web accessibility is being addressed at their institution, while 27% state that it is not. Three respondent service providers stated in question 8, however, that they produce in-house Web resources. The production of these resources and the availability, or addressing the availability, of web accessibility, are separate issues. It would appear to be the case, considering

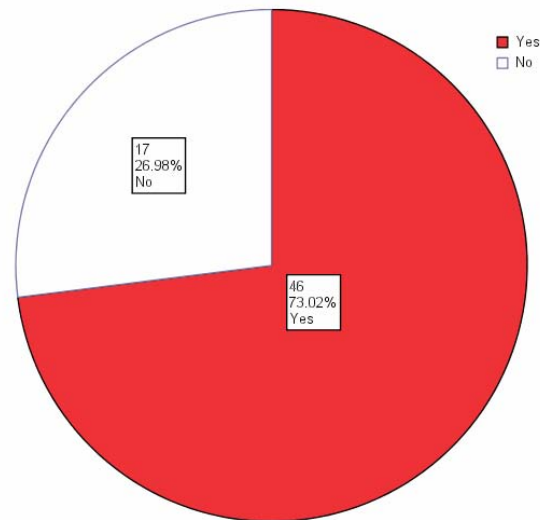


Chart 72: Online accessibility

so much course material is now available online, a majority of service providers should be addressing and providing Web accessibility for students with print disabilities and this

seems to be a priority based on responses. It should be noted that many students who use the Internet, have assistive technology.

While one Ottawa respondent indicated a Web Accessibility Committee was in place at their institution, the majority of responses given noted that the process isn't that streamlined in most cases.

At one British Columbia community college, the disability services office works with departments such as computer services or the library to ensure website compliance. A BC university respondent noted computer services works only on the accessibility of the university's website, and not on individual sites. One Ontario community college service provider said that the marketing department develops websites, but that they aren't fully accessible, so the disability services office offers technology to ensure students can read the sites.

Two respondents noted that they have raised issues of website accessibility with their institutions, and while they are supportive of the need, action has not been taken to ensure compliance.

If yes, which offices address World Wide Web accessibility?

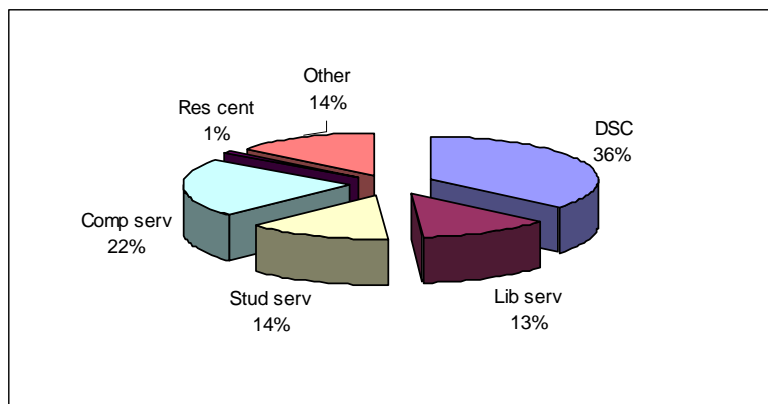


Chart 73: Offices addressing WWW accessibility

31. Is the following information available to students in alternate formats?

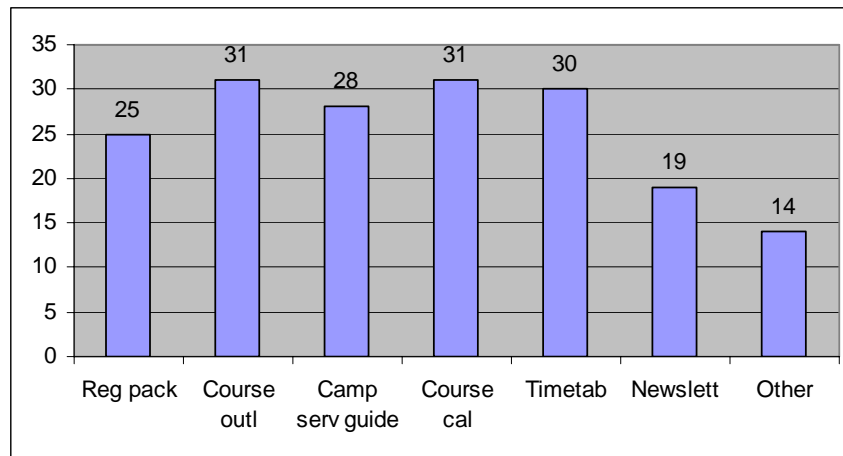


Chart 74: Provision of information in alternate formats

This question is a 'dual question', in that it is also asked in the student survey. For that reason it is analyzed in greater detail in the conclusion section of this report. Responses from service providers (and they could check more than one response) are listed in Chart 74. The percentage breakdown of these responses is as follows:

	%
Registration packages	14.0
Course outlines	17.4
Guides to campus services	15.7
Course calendars	17.4
Timetables	16.9
Newsletters/Newspapers	10.7
Other, please specify	7.9

Table 33. Percent of information in alternate formats

Of the ten comments given for this question, five respondents wrote that all materials listed were available in alternate formats upon request, while three noted that some or all of the materials are available online for student access. An Ontario college respondent noted that the availability of course outlines in alternate formats at the institution

depends on the individual instructor and department involved, but that in instances where such material is not readily available, the disability services office will reproduce the documents. Finally, one university college respondent from British Columbia noted they are unsure if the materials are available in alternate formats.

32. For students with print disabilities, which services do you feel that your institution provides most successfully (list up to three)? Which services do you provide least successfully (list up to three)?

Most Successful Services

FIRST Most Successful Services

Top 3	First Best	Second Best	Third Best
1	E-text	Adaptive technology	Exam Accommodation
2	Exam Accommodation	Braille/E-text/Audio/Exams	Scanning
3	Audio formats	Large Print/Scanning	Multiple responses

Table 34. Top 3 responses for first, second, and third best experiences/practices

Of the responses given for first choice, the production and/or provision of E-text materials was cited most often by service providers. The ability to provide exam and test accommodation, and the conversion of materials to audio format, were the two next popular choices, each having been listed by six respondents. Five people pointed to their institution’s ability to provide adaptive technology to students as their first choice, with scanning equipment, assistive technology computers, Kurzweil (an assistive technology software program used for scanning) and an assistive technology lab being mentioned as specific examples.

Services for blind students were also considered as strong points, with two respondents listing their institutions’ capacity for producing Braille as successful services, and two respondents simply mentioning the ability of their institution to provide alternate format materials for blind students.

Online technology was cited twice, with one respondent pointing to their institution's availability of materials on the Internet, and another service provider listing the ability to produce online texts as a most successful service. The ability of the institution to provide software training to students was also mentioned twice.

Finally, six service providers simply mentioned their institutions' ability to provide alternate formats as their greatest success, while the following responses were each offered once, verbatim:

- Enlarged materials
- Texts and course packs
- Links to provincial resources for ordering texts
- Direct course requirements
- Partnerships and government programs

SECOND Most Successful Services

Of the services listed as second most successful, the availability of adaptive technology on campuses was the most popular choice. The choice was cited by 11 respondents, with four simply mentioning adaptive technology in general, and others mentioning specific equipment, such as Kurzweil, enlargement software, screen readers, online databases, and an assistive technology computer lab.

The provision of materials in Braille, E-text availability, audio format provision and exam/test accommodations were all second-most popular number two picks, each being mentioned three times. The ability of the institution to scan materials into alternate formats, and the provision of enlarged print texts and/or tests, were each listed twice.

Finally, the following services were each listed once, and are presented verbatim:

- Translating lecture notes in AF
- Accessing funding
- Training in adaptive technology
- Classroom supports
- Willingness to assist students producing own material
- Respond to students' preferences for format
- Online resources

- Having a person delegated responsibility for looking after these students
- Hiring readers
- Tutorials

THIRD Most Successful Services

The ability of an institution to accommodate for exam needs was a popular third choice, being listed by six respondents. The availability of scanning services was second, with two service providers indicating such.

The following choices were each presented once as third-most successful service:

- Audiotapes (computerized voice limited in French, better in English)
- E-text
- Kurzweil
- Producing handouts
- Open door policy for students
- Disability counselling
- Technical knowledge of alternate formats
- Course materials in alternate formats
- Supplementary readings through online E-text database
- Keeping up to date with equipment for production
- Timely production of alternate format materials
- Enlargement software such as Zoomtext
- Course accessibility
- Computer/spell check software

Least Successful Services

FIRST Least Successful Services

Top 3	First Worst	Second Worst	Third Worst
1	Braille	Alternate format time delays	Multiple responses
2	Audio Digital/Analogue	Access to equipment	Multiple responses
3	Publishers/Adaptive tech. shortages/Instructors	Audio formats	Multiple responses

Table 35. Top 3 Worst experiences/services

The ability to provide needed academic materials in Braille was most often noted as the least successful service of an institution, being listed by six respondents. Production and provision problems were next, with five mentioning digital audio or audio analogue as problematic, and one specifically writing, “audiotaping quality is not great.”

Access to publishers and their texts for alternate format provision, the provision of alternate formats for students with learning disabilities, a shortage of adaptive technology equipment for loan, and the inability to access course instructors quickly and easily were all cited twice by respondents.

The following answers were all given once, and are presented verbatim:

- Obtaining print copies for transcription
- Production of alternate formats
- Training in adaptive technologies
- Pre-application
- Scanning text
- Alternate format texts
- Materials on E-text
- It is the teachers who have to prepare the course documents to accommodate these students
- Online forms
- PDF in image format
- Fast alternative production of class handouts
- Transcription
- Access to alternate formats in math/engineering topics
- Equipment trials
- Persuading students to identify alternate format needs in a timely fashion
- Administrative information
- Classroom accommodations

SECOND Least Successful Services

While not all respondents offered second choices for least successful service, concerns surrounding the ability for alternate format requests to be fulfilled in time for the start of a semester were most commonly offered, with three mentioning slow turnaround times for requests. Inadequate access to equipment and concerns surrounding audio formats were next, each being mentioned twice.

The following responses were each given once:

- Training for students unfamiliar with adaptive technology
- Not having all resources fully accessible
- Note taking
- E-text
- Web access
- Compatibility of some online services
- Obtaining accessible formats
- Correct versions of textbooks, hard to keep up with

- Keeping pace with digital developments
- Classroom materials
- General college information

THIRD Least Successful Services

The following third least successful services responses were each offered once:

- Standardization of procedures for readers onto audiotape
- Web accessibility
- Sign language
- Institutional information being made available in alternate formats
- Place for test writing
- Scanning
- Poor collaboration with other Alberta institutions
- MP3 (no equipment)
- Finding affordable software for students

The final part of this last question asked the service providers how these services to students with print disabilities could be improved. It is from this type of feedback, from the professionals working in the field, that we can make recommendations and draw conclusions. It has been shown repeatedly throughout the survey research that Canada's service providers do an exceptionally good job and that they are greatly appreciated by the students they support. The answers they have provided to the questions in the survey have contributed to the composition of a profile of the many post-secondary institutions in the country in terms of the issues related to alternate format service to students with print disabilities. From this last question we sought their advice and opinions on how to improve the services that they offer. Many comments from service providers, on a range of issues, mirror comments provided by the students to this question.

How Could These Services Be Improved?

- With the provision of more training for staff, more convenient accessibility overall to alternative format materials, dedication of well trained staff (e.g., formats, publishers, copyright law) to the purpose of obtaining/ordering/making available alternative format text.
- Easier access for students to obtain alternative format material directly from the bookstore – like any other student.
- Science and math print alternatives are often available from RFB&D but students *often* do not want to register with them.
- Establishment of an institutional equipment bank, more money for Braille.
- More resources.
- More knowledge on how to produce.
- Better technology.
- Publishers more approachable.
- Access to an efficient searching technique to find existing alternate formats.
- We cannot force volunteer readers – but if more material were available, we wouldn't have to depend on them as much.
- Funding for technology and for trained staff.
- We don't have enough authority at the services to force professors in providing us with their reading list. There is no real recourse to penalize professors who do not help us. Students must complain to disability services then that may go to the human rights office. In the end, it isn't fair to the student who is already at a disadvantage.
- Improved awareness from IT services.
- A more efficient centralized service for alternate format materials.
- Educating professors and others about the needs of the students with print disabilities.
- A longer lead time for securing materials.
- Often instructors are not even hired to teach a course until late summer and then the texts are not available with enough lead time.
- Easier access to electronic text materials from publishers.
- Internal production of small works (five pages max.).
- Need manuscripts in advance for Braille transcription, but last minute changes make this hard.
- CILS investing in DAISY, which is very helpful. More workstations for students needed.
- Publisher involvement in production of alternate formats; Collaboration with local and/or provincial service providers to pool resources and enhance production processes (risk of losing timely response).
- More rapid contact channels with the students.
- More staff and funding would enable us to provide the same services for students with learning

- disabilities as for students with visual impairments.
- If W. Ross MacDonald School provided a scanning service.
 - Publishers should be pressured to provide E-text versions.
 - More resources, human and financial.
 - If students got their alternate format orders in earlier, and if professors got their reading lists in earlier.
 - More training for staff with adaptive technology; more staff, money, equipment.
 - More professional equipment; access to efficient searching technique to find existing alternative format; access to faster lending or copying of existing alternate formats; access to faster production of alternate format with random access wherever appropriate.
 - Publisher providing alternate formats for all purchases.
- More financial resources; more money for CILS.
 - More funding for production of materials.
 - Books available at sale.
 - More funding for production of materials, for students with *all* disabilities; we currently provide for students with visual impairment.
 - Software, and training on its usage.
 - As a private institution, we do not receive public funds; makes it hard to purchase certain materials, like Braille.
 - Speeding up the provision of alternate format texts; paying graduate students to proctor/scribe exams.
 - Promoting universal instruction design; promoting awareness among faculty and staff that the duty to accommodate extends beyond disability services office.

FINDINGS AND CONCLUSIONS ⁶

This following section provides broad and general findings from the two surveys. We will address each survey separately, and then move on to a discussion of some of the issues in more detail, in particular the “dual questions”, from which much information has been gleaned.

The findings from the student survey can be summarized as follows:

Beyond the demographic data of the profile of our respondents, which is addressed in the questionnaire itself, the main points to emerge from the survey are that students do not receive their academic materials in a timely manner, and that they do not always have access to the full text. Also, 42 percent of student respondents report that they receive no financial aid for their alternate format materials. Of those who do receive funding, only 37% report this funding is sufficient.

Forty-six percent of students do not receive the full version of a textbook in alternate format. There is a gap in the provision of alternate format materials in terms of the availability of required and recommended readings in alternate formats. Nineteen percent state that all their required readings are available in alternate format, 50% some, 30% say none. When it comes to the availability of recommended materials in alternate format, 20% say all materials are provided in alternate format, 54% say some, and 25% indicate none are available.

In terms of students receiving their alternate format materials in a timely manner, again there remains a major lacuna, 39% say always, 50% sometimes, 11% never.

The main barriers to timely delivery are equipment, staffing, funding, and instructors. Specifically, for instructors, the figures for timely response are 40% always, 43% sometimes, 7% never, 11% NA. Beyond the textbook, other things such as registration packs and newsletters must all be provided in alternate formats to ensure full participation in academic and campus life.

⁶ All percentages have been rounded in this section.

When students were asked about copyright knowledge, 65% indicated they were not aware of their rights, 16% said that they were not aware of responsibilities. Turning to the quality of alternate format academic materials received, 25% say excellent, 40% say good, but 26% say average, and 9% say it is poor.

The use of Kurzweil scanning software is praised, as are extra exam time and exam accommodation in general, and as is receiving materials on time for those who do. Questions regarding the receipt of materials in a format of choice and the availability and quality of adaptive technologies received positive responses. The disability service centre staff are also highly regarded by the students for their support.

When it comes to worst experiences, students indicated that delays in obtaining materials, poor quality of audio tapes, and instructors that are either a barrier to timely delivery of alternate format materials, or are not sympathetic to the needs of students with print disabilities, are the worst experiences and services.

When it comes to students' ideas on how things can be improved the main themes that emerge are that instructors must respond on time, more facilities for production of texts in different formats on campus should be provided, better quality of photocopying, training of readers is needed, and that more computers, more support staff, more books on tape, and more conversion into alternate formats by publishers would be required. These are but some of the recommendations from the students with print disabilities who participated in our research.

A complete profile of our service provider respondents and their answers to the questions in the survey can be found in the previous section. The findings from the service provider survey can be summarized as follows: firstly, data from both the student survey and the service provider survey indicates that there are several areas where service provision could be improved. For instance more provision of Web resources in accessible formats, more training of staff and more information on the availability of alternate formats.

There was a widely expressed need for an orchestrated and efficient system to allow access to publishers' files. There is also a need for more communication and education with

regard to copyright responsibilities and rights. From the survey data it would appear, also, that it might be beneficial for those service providers whose institutions produce in-house materials to gain a better understanding of funding allocated for the production of alternate format materials and to provide recommendations for additional needed resources. Other areas of improvement are training, where more is needed, and perhaps standardized training procedures should be established. To address various alternate format needs, the full version of texts must be produced when required by students, and that can be through a provincial/regional service organization or on campus. It is also advisable that those working in the service provision industry be given more authority and resources to ensure the timely arrival of alternate format academic materials.

In this regard, the data has spoken to the problem areas in service provision, but many issues are mitigated by the commitment and successes of the service providers. What is perhaps of most interest in terms of a 'critique' of service provision is what the students have to say about it. In the following section, we address responses given to those questions that were asked of both students and service providers.

Select analysis of 'crossover' (dual) questions

Questions 15 in the student survey and question 16 in the service provider survey presented the same question: In which formats do students require academic materials most? Table 34 displays the relative percentages of the responses. The first column shows the percentages reported by service providers of the types of formats the students request most. The second column shows the responses that the students made when asked the same question. There is a notable difference in many areas. It should be borne in mind, however, that the students might not be basing their 'required most' format solely on a request made to the service provider. We should also note that for the purposes of this research we provided a detailed list of format types, but audio digital can include MP3 and DAISY books.

	Required Most	Require	Prefer
	% of Service Prov	% of Student	% of Student
E-text	42	16	22
Braille	11	2	3
Large Print	12	11	9
PDF Image	5	6	2
PDF Text	0	13	4
Audio Analogue	14	14	9
Audio Digital	9	14	9
MP3	8	7	3
DAISY Books	0	7	6
Tactile Graphic	0	2	0
Descriptive Vid	0	3	0
Other	0	7	32

Table 36. Required & preferred alternate formats compared

However, there remains a very large discrepancy in percentages reported for two particular formats: E-text and Braille. Service providers report that E-text is requested most by 42% of those who responded. In the student question this percentage is much lower, at 16%. Likewise, there is a large discrepancy in the same crosstab scenario for those requesting Braille most. Service providers state that Braille requests make up 16% of those who request alternate formats; yet the students only report this figure in the area of 2%. It should be noted that a large percentage of our respondents are students with learning disabilities who do not require Braille texts. Students report that they “require” these formats most, but apparently they are not requested of the service providers in the same magnitude. However, for the other formats listed in this ‘dual’ question, the percentages are similar in terms of what are reported as required by both the students and the service providers.

Question 17 in the student survey might shed some light on this issue. In this question the students were asked to list their top three preferred alternate formats, we will examine the first choice. When set against the percentages above, the major differences between the two surveys are again witnessed primarily in E-text and Braille. The category “other”, contains a large number of responses such as Kurzweil, which is speech recognition software used to read books.

Another important message that emerges from this survey is that there are differences in knowledge regarding copyright issues and the area of academic accommodations. The same questions were asked in the student and service provider surveys (see Appendix), and it is interesting to examine the manner in which both groups respond to questions in this area.

	Service Providers	Students
Aware of Copyright Rights	68.1%	36.5%
Aware of Copyright Responsibility	68.7%	84.7%

Table 37. Copyright knowledge compared

The data in this table indicate that service providers are very consistent in the knowledge of rights and responsibilities. However, just about one-third of all service providers were unaware of their rights or responsibilities relating to the exceptions for persons with perceptual disabilities under the Canadian Copyright Act. This is a disturbing figure, one that calls out for a thorough re-analysis of current copyright legislation, and a re-appraisal of how barriers to both the student and service providers may be alleviated.

Question 26 in the service provider survey asked about barriers to effective and efficient delivery of aids and services. Question 22 in the student survey also asked about barriers.

Barriers	Service Provider %	Student %
Staffing	13%	23%
Funding	20%	24%
Equipment	17%	19%

Table 38. Barriers compared

Those areas of overlap in the question are illuminating with regard to the similarities in the statistics for both funding and equipment. The only major difference is between the relative percentages of respondents who reported that 'Staffing' was a barrier. Thirteen percent of the service providers reported this as a barrier, whereas 23% of students did so. It is perhaps an appropriate comment that the students deal more frequently with staff

and instructors and would therefore experience any delays or barriers more immediately than might the service providers.

One of the major issues to emerge from the surveys is that of the quality of alternate format materials. Service providers were asked (Question 10) to rate the quality of the production of 'in-house' alternate format academic materials. Students were asked to rate the quality of alternate format academic materials that they receive (Question 33). Thus the questions were not identical. However, 51 of the 67 service provider respondents produce in-house alternate formats, so the responses are germane.

Quality Rating	Student %	Service Provider %
Poor	8.9%	2%
Average	26%	39%
Good	40%	45%
Excellent	25%	14%

Table 39. Quality ratings of alternate format materials compared

From these statistics it is apparent that the students were more likely to choose 'poor' than were the service providers. Thirteen percent more service providers chose 'average' than students, but the percentages are similar when it comes to the category 'good'. Finally, 25% of students thought that the quality of their received academic materials in alternate formats were of an 'excellent' quality, while 14% of the service providers state this to be the case.

In Question 31, the service providers were asked to choose from a list of other types of information available to students in alternate formats. The students were asked the same question (question 29).

Information	Student Response	Service Provider Response
Registration packages	27 (15%)	25 (14%)
Course outlines	38 (21%)	31 (17%)
Guides to campus services	27 (15%)	28 (16%)
Course calendars	33 (18%)	31 (17%)
Timetables	29 (16%)	30 (16%)
Newsletters/Newspapers	17 (9%)	19 (10%)
Other	10 (5%)	14 (8%)

Table 40. Available information in alternate format

This table simply reveals that the service providers and students have very similar response rates to this question. Moreover, it would appear to be a good indication of the awareness amongst the student population of the different types of information that are, or can be made available, in alternate format.

RECOMMENDATIONS

The project work that NEADS has undertaken with its partners since December 2003 has been significant in scope and impact. Based on research, consultations undertaken during the project Access to Academic Materials for Students with Print Disabilities, and submissions from other organizations, we recommend that:

- Post-secondary students with all types of print disabilities should have access to academic materials for their studies in a format or formats of choice.
- Materials provided must be made available in a timely manner to ensure that students who cannot use standard print can pursue college and university education on a level playing field, with equal access to all the tools of learning.
- Publishers should make their books readily available in accessible, useable, complete electronic formats, at a reasonable price.
- Initiatives such as the National Network for Equitable Public Library Service for Canadians with Print Disabilities, which includes the development of a Clearinghouse for making publishers electronic files available to alternate format producers, be supported in order to improve access to information for Canadians.
- In this regard, changes to Canada's copyright legislation are required so that the needs of those who cannot read regular print are acknowledged and accommodated.
- Students with disabilities are entitled to a complete version of the book and to all information that is available in the printed version including text as well as graphs, charts, tables, etc.
- While there is a need to establish professional standards of quality production of alternate format texts and other learning materials in Canada, this should not create an impediment to timely delivery. For that reason, disability service centres and libraries on college and university campuses should have sufficient resources, staff, and technology to continue to produce materials in a variety of formats and of different types – as required by individual students – in-house.
- In fact, there is also a need for greater resources that allow academic materials to be produced by the organizations that have the capacity and expertise.

- Professionally produced books and other learning materials in all formats should be made more widely available for sharing between schools, libraries, provinces and jurisdictions.
- Professors, teachers and instructors must be willing to support the learning needs of all of their students, including those with print disabilities. Reading lists and academic requirements for each course of study must be established with sufficient lead time to allow materials to be rendered accessible to students in formats of choice at the beginning of each semester.
- Accessibility does not end with required readings. Students with print disabilities must be able to participate in all aspect of campus life and must have access to other types of materials, including course calendars, handbooks and campus newspapers.
- Professors and instructors must become more understanding of and familiar with the requirements of students with print disabilities in their classrooms. Depending upon the school, this may necessitate the delivery of faculty training/workshop sessions involving students and disability service centre staff.
- The Internet is being used by post-secondary institutions and faculties for course work. University and college websites must be fully accessible, in particular for those who use screen-reading software.
- Technology can level the playing field and allow students with disabilities to compete and succeed in a post-secondary environment. Students who require alternate format materials must have access to the best, most appropriate technology – both hardware and software – at an affordable price. The equipment must be made available to students in their homes and also in campus disability service centres, libraries and all computer labs.
- To make full use of technologies, students with print disabilities must be provided with professional training in the use of their equipment.
- Students are often put in a position where they have to produce course materials in alternate formats themselves. This can be time-consuming and exhausting and can take away from much-needed study time. Students with disabilities must have their academic materials provided in a format of their choice from a reliable source.
- Often the biggest barrier to access to post-secondary education for students with disabilities is adequate funding to attend school considering disability related costs.

The Canada Student Loans Program and provincial student financial assistance programs must continue to support students with disabilities through the Canada Study Grants program and similar provincial bursary programs in terms of funding for equipment and services costs relating to access to academic materials in formats of choice.

This report concludes by recommending that there continue to be consultations with key stakeholder groups. These groups include: students through the National Educational Association of Disabled Students, the library community and consumers with disabilities through the Council on Access to Information for Print Disabled Canadians (as supported by Library and Archives Canada) and the Canadian Association of Educational Resource Centres for Alternate Formats, and service providers through the Canadian Association of Disability Service Providers in Post-Secondary Education. Efforts should be made by all concerned parties to ensure that publishing houses produce accessible alternate format versions of the textbooks at the source.

Finally, among some of the main conclusions, it is recommended that there should be an office/person in post-secondary institutions whose responsibility will be to act as a liaison between the faculties and departments and the disability service centres to ensure that each students' alternate format needs are being met. This staff person could also be part of the disability service centre team, depending upon the structure of services within each institution. The office/persons duties would include ensuring the timely access to academic materials.

APPENDIX 1: SUMMARY OF ORGANIZATIONAL SUBMISSIONS TO THE NEADS PROJECT

A common sentiment is found in many of the submissions sent in by Canadian post-secondary service provider organizations that are involved with alternate format production and provision. That is, students are becoming more vocal regarding their need for alternate format materials, while at the same time technology advances are making the production and provision of such materials easier. As is indicated in the paper submitted from Assistive Technology BC, "The switch from analogue to digital technology provides various choices to students with print disabilities for reading materials. As well, the development of software programs targeted for specific disability groups or tasks opens up new methods of reading and writing."

Yet at the same time, several factors are also frequently cited as roadblocks toward the effective, timely provision of alternate format materials to print disabled students. The lack of an effective mechanism for centralized sharing of alternate format materials often means in-house production of such products at post-secondary campuses is the most effective option. In-house production, though, is often limited by a lack of easily accessible funding devoted to alternate format production. Issues related to copyright legislation, how the legislation is applied by publishers, and an absence of universally-accepted minimum standards for alternate format production, are just some of the other factors that stand in the way of an effective system.

Just as many of the organizations that submitted papers to the NEADS project are in agreement about the factors affecting alternate format production and provision in Canada, so too do these organizations seem to agree on certain recommended courses of action designed to improve the system in Canada.

Changes to Legislation

Changes to Canada's copyright legislation, so that current laws are more inclusive toward the needs of print disabled Canadians, were widely cited in the submissions as a necessity. The legislation needs to be clearly written and widely understood by production facilities

and service providers, while being rid of barriers to timely production and distribution of alternate format materials. The Canadian Association of Educational Resource Centres for Alternate Formats (CAER) paper suggests, “there should be a generic statement in the legislation to exempt all formats useable by people with perceptual disabilities.”

Some of the organizations contributing papers also explored the idea that legislation should be introduced requiring publishers to provide standardized, accessible E-text files of all textbooks they produce. This would allow those who produce alternate format materials timely access to text files that can be easily converted into various alternate formats, for student use. This step, it was mentioned, would ensure alternate format materials produced would be of better quality than is currently the case, and would also ensure that students are able to receive the materials they need closer to the start of classes. Similarly, the Canadian Association of Disability Service Providers in Post-Secondary Education (CADSPPE) paper suggests that electronic text files provided by publishers should be posted to a national clearinghouse for easy, universal access.

Universal Standards

Another recommendation put forward by more than one organization in their submission paper was the need for a universally agreed upon, and used, set of standards for each alternate format produced. Because the production of such materials is done by several organizations, and in-house on many campuses, the quality of one document produced by one organization is often not the same as another produced elsewhere. Universal minimum standards regarding alternate format production would ensure all students receive clear, accessible materials they can make use of.

Appropriate Funding

Funding for alternate format materials is also a key issue. Throughout the submissions from organizations it is expressed that campuses, which are often called upon to produce alternate format materials for students, usually lack the needed funding for staff, production costs and equipment. At the same time, students can be denied government funding available to cover alternate format costs. This not only means that those students denied funding must find a way to cover any costs of having alternate format materials produced, but also must somehow obtain necessary adaptive technology required to

effectively use their alternate format materials. An appropriate fund, or funds, should be set aside by governments to ensure these costs can be covered as required across the country in an equitable way that best serves students with print disabilities.

Braille Needs

Braille demands must also continue to be addressed for those post-secondary students who require such materials. As the movement toward digital and more technologically-advanced alternate formats continues, governments and service providers must not forget that certain students will continue to be most comfortable and to prefer obtaining their academic materials in Braille. Post-secondary services – both on campus and through external agencies - need to be funded adequately to ensure Braille documents are available to students who require the medium. Many groups tell us that funding must be made available to cover the costs of Braille production. As well, appropriate Braille-reading technology must be funded and made available to all students who require it. Technology enhances the ability of students to use Braille. It also enhances production of materials in this format.

National Sharing Database

Many of the submissions put forth the idea that a national alternate format database and distribution system—or systems—should be organized and utilized by those involved in production and those involved in the provision of alternate format materials. Given that a number of alternate format academic materials are produced by formal organizations, such as the CNIB, and a number are informally produced on post-secondary campuses, such systems would allow all involved in the alternate format system in Canada to know where, and in which formats, materials are available for student use.

These ideas, and several other important insights and recommendations, are explored more in depth in the following appendix containing the full text of all submissions received. Just as the results and analysis of the survey research conducted for this NEADS project are vital pieces of information, so too are the submitted papers presented here worthy of review and consideration. Indeed the findings of our research often complements the recommendations from the stakeholder groups and alternate format producers.

The following organizations provided the submissions included in this document:

- Assistive Technology BC
- Disability Service Providers in Post-Secondary Education in Alberta
- Canadian Association of Disability Service Providers in Post-Secondary Education (CADSPPE)
- Ontario Ministry of Education, Steering Committee on Transcription Services
- W. Ross MacDonald School
- College Committee on Disability Issues (Ontario)
- Canadian Association of Educational Resource Centres for Alternate Formats (CAER)
- British Columbia College and Institute Library Services (CILS)

DISABILITY SERVICE ORGANIZATIONS' SUBMISSIONS

In May 2004, NEADS invited disability service organizations, colleges and universities to submit position papers on the provision of alternate format materials, considering both their perception of the situation as it currently exists in Canada, and the overall service provision in post-secondary institutions. This section includes those submissions received by NEADS throughout the Access to Academic Materials Project. Some of these papers were written for, and submitted to, NEADS as unique documents; others are papers previously submitted to other bodies, which have been forwarded to NEADS for our consideration as well. In each case, this distinction has been made. The content of these submissions appears as it was submitted to our organization.

The submissions included here have been contributed by organizations that provide support to students with print disabilities. They outline many of the challenges each organization has seen in the provision of alternate-format academic materials, as well as some valuable recommendations for addressing these challenges.

The following organizations provided the submissions included in this document:

- Assistive Technology BC
- Disability Service Providers in Post-Secondary Education in Alberta
- Canadian Association of Disability Service Providers in Post-Secondary Education (CADSPPE)
- Ontario Ministry of Education, Steering Committee on Transcription Services
- W. Ross MacDonald School
- College Committee on Disability Issues
- Canadian Association of Educational Resource Centres for Alternate Formats (CAER)
- British Columbia College and Institute Library Services (CILS)

Assistive Technology BC

By Garth Findahl, Gladys Loewen and Vince Tomassetti (July 2004)

Background

As assistive technology consultants and trainers, staff at Assistive Technology-BC has extensive knowledge in the use and limitations of assistive technology within learning and working environments in British Columbia. We provide technology support services to adults with any disability, including persons with print disabilities. Services include technical aids assessment, consultation, loan or grant of assistive technology, training on the adaptive equipment, trouble shooting and repair support.

We provide these services through contracts with the Ministry of Human Resources and the Ministry of Advanced Education in order to ensure that adults with disabilities are able to do the following:

- Communicate more effectively;
- Write independently;
- Read independently;
- Conduct research and transmit information more efficiently;
- Perform job duties effectively;
- Make transitions between public school, post-secondary, and employment; and
- Change jobs smoothly.

We currently provide services to approximately 1000 adults annually between the various contracts.

Access to Academic Materials

As the field of technology expands, so does the demand for adaptive technology, services, support and resources, as adaptive technology alone is never a seamless substitute for the abilities of the non-disabled population. There are usually accommodations and adjustments to be considered when integrating adults with a disability into a traditionally competitive environment. Strategies to accommodate students who use adaptive technology are constantly evolving as awareness and knowledge increases and technology becomes more commonplace yet more complex.

With the recent innovations in technology, the options for accessing print information have changed dramatically. The switch from analogue to digital technology provides various choices to print disabled students for reading materials. As well, the development of software programs targeted for specific disability groups or tasks opens up new methods of reading and writing. Some of these innovative developments include refreshable Braille technology, screen review and text to speech programs that read electronic text (E-text), digital hardware and software programs for reading E-text, talking dictionaries and thesaurus programs, and portable systems for example, Alpha Smart Dana, BrailleNote, CD and MP3 players, and CCTV (closed circuit television).

Companies are now designing optical character recognition (OCR) software programs that produce greater accuracy in translating the digital scanned image into text. These programs are now tailored for the specific needs of users who are low vision or blind, or have learning difficulties; both groups approach reading in different ways, so the software programs reflect that distinction.

Issues

BC is fortunate to have a provincial production service for colleges and institutes as well as a production unit at one of the universities. Institutions report that the provincial program has some difficulties preparing materials in a timely manner due to the bottleneck of requests for the fall semester, requests not being submitted with sufficient lead time, the time it takes to produce materials based on library standards, and review of the text to determine the appropriate production format for the textbook.

Despite this provincial resource, we have made the following observations that exist as pressure points in the post-secondary system:

- Some schools are now choosing to scan textbooks for students in order to get the materials to the student in a timelier manner or because they want to standardize on one basic format. The informally produced E-text is generally not edited nor complete in that there is no description of the charts, graphs, sidebars, etc.

- Institutional production staff may not be trained in techniques for proofing, editing, transcribing, and operating the hardware/software. As a result students may receive substandard textbooks from which to study in courses that depend on accuracy of information.
- Some institutions are encouraging their print disabled students to scan and produce their own E-text. This means that students are using valuable study time to try to produce materials so that they can read the textbook. Students may not have the time or ability to edit or describe the graphic materials in the text, so they end up with an incomplete textbook that is substandard with possible inaccuracies.
- Those using the provincial resource may end up with texts in more than one format, requiring several assistive technology products for example, portable CD or MP3 player, reading software for the computer, and 4-track tape player.
- The informal productions (institutional or student produced) cannot be registered for a library service in that they are not produced in a professional format, following standard copyright procedures.
- Post-secondary level textbooks have a relatively short shelf life with new editions being produced within a few years. Sometimes by the time a book is produced to library standards, the new edition is nearly ready for release, making the alternate format book obsolete.

So the dilemma becomes one of timeliness, quality of production, and type of production format. There is a trade-off between timeliness and quality of production, which has a significant impact on students and their academic success.

Recommendations

1. At present universal guidelines and standards have not been implemented to govern the way in which electronic text materials are prepared. Examples of textual information that would benefit from such standards are italicized text, graphs, tables, charts, diagrams, and pictures. Currently each production facility administers their own rules for depicting these items.
2. It is important that clear and concise copyright legislation is enacted, widely practiced and understood by every production facility. It is equally important for the copyright legislation to remove barriers that could prevent timely dissemination

- of electronic materials. Schools and post-secondary institutions constantly encounter copyright obstacles that often result in untimely delivery or prevent the electronic material from being produced.
3. In order to ensure all documents in print are universally accessible in electronic text format, it is necessary to acknowledge and provide multiple means of technology hardware and software. Alternate format material is only useful when the recipient has the proper tools and skills to digest the information. If a student does not have the appropriate computer assistive technology or the skills to interpret the electronic material, sufficient access to print materials may not be achieved. For example, when materials such as mathematics, science, computer science, languages, and music are produced in alternate format in the form of electronic text, the reader may require more than one assistive output mode to gain full access. In these subject areas, the non-traditional display of text cannot be adequately interpreted by the aid of a computer equipped with a speech synthesizer and screen reader.
 4. As lending libraries become more proficient in the production of E-text, it is assumed that adults who are Braille readers will demand access to Brailled academic materials in order to make maximum use of their preferred reading style. Production services will need to consider access to Braille materials essential for some students, no matter what the cost.
 5. Access to refreshable Braille technology is critical for reading electronic information that contains numbers, equations, language, music notation, and scientific vocabulary. Since Braille technology is expensive, access to the equipment is very limited. Funding for appropriate access to a range of assistive technology is paramount.

Conclusion

To realize the maximum utility of alternate format materials, universal access is paramount. Universal access for persons with print disabilities includes:

- Broad scale availability of materials in a timely manner;
- Access to material in the preferred format or production style;
- Access to several types of adaptive technology for example, computer, speech synthesizer, screen readers, large-print software, Braille displays, talking dictionaries including a thesaurus;

- Proper training on the technology; and
- Guaranteed access to accessible publishers file for the institution for all textbooks sold in the bookstore.

It is imperative to ensure that students with print disabilities have the ability to access materials that are so easily accessed by their non-print-disabled counterparts. All educational institutions have a duty to accommodate to ensure that all students have access to course materials. In order to facilitate this institutional responsibility and duty, legislation must be written with the broadest access possible to support post-secondary institutions and production agencies in making printed academic material available to students with print disabilities in preferred formats in a timely manner.

Respectfully Submitted on behalf of Assistive Technology-BC,

Garth Findahl, Learning Disability Technology Consultant

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Disability Service Providers in Post-Secondary Education in Alberta

(August 2004)

Members of our network group provide comprehensive support services for post-secondary students with a variety of disabilities. A significant percentage of our students have print disabilities due to challenges with visual acuity, processing of print because of a learning disability, or conditions that prohibit the physical manipulation of text. Many of these students experience great difficulties in obtaining academic materials in an accessible alternate format, which creates barriers to their academic success.

Challenges

- Some institutions do not have sufficient staffing or staff expertise to assist students in the creation of the alternative format material
- Some institutions do not have the appropriate technology to produce the materials for the students
- Some students do not qualify for funding for services or technology for creating alternative format material
- Students vary in their technology skill levels so some students are not very adept at converting their material themselves
- Alberta does not have a central alternative format production service for its post-secondary students
- Often students experience significant delays in getting their course reading material in alternative format
- The quality of the alternative format material can vary significantly depending of who creates the material
- Searching for the alternative format materials through resources like Recording for the Blind and Dyslexic takes time and the material may not be available
- While some publishers will send an E-text document to the student, the file is often not a text document and cannot be used by the student
- Many publishers will not provide textbooks in an electronic format; often textbooks produced by Canadian publishers are not available

Canada needs to address the concerns of post-secondary students with print disabilities. Not providing adequate access to post-secondary academic materials deprives a segment of our community who are otherwise capable of benefiting from such an education. It therefore deprives society of educated, contributing individuals.

Recommendations

- Create universal standards for electronic text and digital audio and the conversion to the various different accessible formats.
- Create legislation that requires Canadian publishers to a standardized, accessible text format electronic copy of all publications at the same time that the printed text is published. The existence of the electronic file will then permit the easy and accurate production of the publication in the various alternative formats. Similar legislation has been enacted in other jurisdictions.
- Create a system for creating materials in alternative format and for cataloguing existing material. This system would save time and money.
- Provide funding for qualified staff to produce alternate format materials, for the equipment required for digital production, and for equipment required by the students to read their materials.

The path to full accessibility of academic materials to students with print disabilities must be cleared so that all Canadians have equal access to an education.

Respectfully submitted,
(the list of members of The Disability Service Providers in Alberta).

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Canadian Association of Disability Service Providers in Post-Secondary Education (September 2004)

Introduction

CADSPPE is the Canadian Association of Disability Service Providers in Post-Secondary Education. Our members provide on-campus academic support for college and university students with disabilities at public and private post-secondary institutions in Canada.

Members of CADSPPE provide comprehensive support services for college and university students with a variety of disabilities. A large percentage of these students are print disabled because of problems related to

- Visual acuity,
- Difficulties in the processing of print because of a learning disability, or
- Conditions which prohibit the physical manipulation of text.

The students we work with on a daily basis are as motivated to learn and succeed as their non-disabled peers. Yet, for many of these students, the barrier to gaining knowledge is the difficulty in obtaining accessible academic materials and in alternate format in a timely manner.

Our members have developed a piece-meal approach to the provision of accessible materials; they deal with this issue on a daily basis, trying to ensure equal access to learning for these students. It is important to note that access varies across the country, depending on the following:

- Local and provincial financial resources for both students and institutions,
 - Availability of institutional personnel,
 - Availability of technology and knowledgeable technological support, and
 - Technology skills of the student.
- The result is that some students may have better access to academic materials while others have poor access. This disparity must be reflected in success levels

and, indeed, may even discourage the attempt to pursue post-secondary studies, including graduate studies.

Current Issues

Staff at post-secondary institutions have been creative in meeting the needs of their students with print disabilities by establishing a variety of services, co-operating with other organizations, and putting some responsibility on the student directly. Examples of the range of service options include:

- Organizing and operating their own, non-standardized, books-on-tape service
- Using the resources of Recording for the Blind and Dyslexic (RFB&D), a U.S. organization, which rarely has texts on Canadian topics.
- Setting up an institutional scanning, editing and Brailing service, using paid students or volunteers.
- Using provincial production resources where available.
- Contacting individual authors and publishers to request required textbooks in electronic format.
- Establishing a lab for students to scan their own books and produce their own E-text books.
- Using Internet for access to copyright free titles.

Disability service providers report varying responses of success to these options. A common thread is that it takes time to establish the specific type of service that fits the institution, students and staff. Many feel that the services are time consuming, complicated, and certainly not satisfactory for their students, no matter which options are used. It takes a tremendous amount of time to conduct a search to see if the book is already available in alternate format. Those who produce their own alternate format materials, report that it requires time, funding, staff, and skill. Often this means students do not receive texts until well into the semester and sometimes they never receive them at all. They need to know timetables prior to the start of the semester and order early as well as get access to faculty and the titles of the textbooks they have chosen for a particular course.

Service providers who use provincial or regional production resources also report that alternate format materials are not always provided in a timely manner. It appears that using an external agency takes as much time as it does for an institution to produce

materials themselves. It appears that no matter what the option, obtaining materials in a timely manner seems to be the key pressure point.

Problems are experienced right across the country, in all provinces and territories. Solutions to the problems are often regional. Regional variations in solutions lead to difficulties with consistency of quality produced material, storage, sharing and duplication. Individual schools produce material in-house, provinces and territories engage provincial or territorial production processes, and CNIB produces material nationally. All this leads to a disjointed method of alternate format production, which is inefficient, ineffective, costly and absolutely unnecessary.

Technology enhancements have provided many more options for producing text in alternate format, making it easier to produce materials for some disability service providers and students. Others find the changes in technology challenging which creates new stress and pressure for them. Not all institutions have staff that are skilled in the use of these technologies, the funding to purchase the equipment for production, or the staff to do the production. It seems that the responses to accepting the responsibility for providing/producing alternate format materials vary drastically from institution to institution, within or across provinces.

The alternate format options include electronic text (E-text), digital audio, MP3, DAISY formats, and etc. making the production of analogue books on tape less desirable. There are a wide variety of E-text readers, both software, for installation on a computer, and portable hardware. These new technologies provide greater opportunities and options for students allowing them to use features such as 'Search and Find', electronic dictionaries, and text-to-speech software programs in conjunction with their E-text books. However these technologies require greater skills on the part of the student in order to maximize the use of the equipment as well and to access the equipment itself. Training on the use of the new technologies is therefore essential to make maximum use of the available options. Additionally the technology still cannot be physically manipulated by all print disabled students. It is important to note that this technology is only intended to simplify use of the alternate format text, not to produce alternate format texts.

There are problems with the various formats. Word documents tend to lose proper page formatting and numbering, as well as pictures. Hidden attributes, such as frames or layers, are apt to cause problems rather than be of benefit to audio conversion. Correcting these problems requires the intervention of an editor. Screen reading programs now come with access keys to read PDF. However the creator of the PDF file can prohibit access despite the capability of the user. XML can generally be used by Internet browsers like Internet Explorer and Netscape Navigator, and offers all the accessibility available in Web browsing including changing font types and size (cascading style sheets). But all Web page designers do not provide this access.

New technologies (both hardware and software) give students the confidence and the ability to take more advanced and complex, academic courses, because they have increased access to reading materials. This means that the demand for accessible materials is increasing, the content more complex, and the range of subject matter more extensive. Prices of the equipment have come down significantly in the past 10 years, making the technology affordable for most students.

Despite these advances in technology, there is still no process to accurately and easily scan books that contain numbers, equations, and complex layouts; this includes math and science. Some books include not only charts and graphs, but also sidebars, complex fonts, and graphics which continue to pose a challenge for a scanned production.

While some publishers will send the electronic files, the files are often not text documents as they contain the original formatting and digital images. While on the surface the file looks like an accessible format, in fact it requires many hours to strip the formatting and the digital images to get to the basic text. Not all publishers will co-operate in providing this text. Staff at institutions report that they are achieving greater success with obtaining publishers' files in a stripped-down, text only version, but this is still not a guaranteed option.

Several institutions report that they have established a technology lab where students are able to produce their own alternate format materials using a scanner and optical character recognition software. Institutional staff provide training to students so that they can

produce their own electronic texts. For some students, this works; for others, valuable study time is lost producing their books, causing frustration with the added responsibility, not to mention the increased barrier they experience in accessing an education.

Another frustration for the field is the change in Canadian access to digital resources from RFB&D. While we still have access to books on tape, RFB&D is not providing access to their digital productions of books to international communities. This means that while the book may actually have been produced by RFB&D in alternate format, Canadians will still need to re-produce the book locally.

Each of the issues identified above poses a barrier, but when all conditions exist at the same time, they are daunting for the post-secondary disability service provider. The impact spreads to the student as well, limiting access and putting the student in a position of academic disadvantage. Hence the need for a comprehensive, Canadian based solution where institutional staff and students can access texts in alternate format and obtain the necessary equipment in a timely manner. We emphasize the importance of this issue for our members, our students, and for society as a whole. Not providing universal access to post secondary academic materials discriminates against a segment of the academically qualified student body, thereby contravening Human Rights Policies.

Impact

These access issues presented above highlight several impacts for students with print disabilities. It is imperative for the system as a whole (students with print disabilities, post-secondary service providers, Librarians, organizations that produce alternate format materials, and legislators) to fully assess the impact on lack of access to academic materials in alternate format and identify solutions to resolve this systemic problem. Key impacts include:

- The need for reading text material prior to lectures and classes.
 - Limited, late or no access to text material can be a barrier to learning
 - The pace of classroom learning is rapid, and the key to positive and equitable educational experience includes access to materials prior to the start of the class.
 - Receiving texts immediately prior to the commencement of exams forces students to complete all required reading in a limited time.

- Students find it difficult to follow along with lectures if they have not read the textbook prior to the lecture, which places them at a significant disadvantage when compared with their non-disabled cohort.
- The difficulty and impact of conveying information in alternate ways.
 - College or university faculty and staff are compelled to find alternate means of conveying important information to students who are print impaired; sometimes successfully, often with great labour.
 - The impact and cost of finding alternate ways to convey information further places students with disabilities at a disadvantage, particularly in instances where class participation or group work based upon readings is essential.
- The variation between formal and informal productions of alternate materials.
 - Students who are expected to produce their own alternate format materials are further disadvantaged by having to use valuable study time to produce their own materials.
 - Some students would prefer informal institutional productions to a formal production that meets library standard if it means the book will be available prior to the start of the course.
 - There is no current way to measure the impact of informal productions on the student's ability to complete the course, the accuracy of the information in the production, and the effect it has on the confidence level and the resulting grades for the course.

Recommendations

The impact of delayed or limited access to academic materials requires action to resolve the discrimination that print disabled students continue to face throughout the country.

CADSPPE wants for its students and its members:

1. Legislation

Legislation must be brought forward to force the publishers to create an accessible alternate format upon demand for each text they publish. This will permit access to

information by anyone. Similar legislation has been enacted in other jurisdictions (Texas and California, for example); it can be done here. This would provide the maximum level of access for all post-secondary students, reducing the need for the plethora of options that currently exist.

2. Action

Canadian publishers must create a standardised, accessible, text format, electronic copy of all publications, at the same time that the printed text is published, and submit this file to a central clearinghouse, as suggested in the 1998 Report to the Book and Periodical Council. The existence of the electronic file will then permit the easy and accurate production of the publication in the various alternate formats. This broadened access to information will benefit not only people with disabilities, but also the entire population.

3. Ongoing representation

CADSPPE would like to ensure that it is involved in any decisions, future studies, and funding decisions that relate to access to academic materials for students with print disabilities. Decisions made at a federal or national level affect the whole post-secondary system, so having an informed representative voice is essential.

4. Funding

Adequate funding is required within each province and post-secondary institution to ensure qualified staffing is available to produce alternate format materials, for the equipment required for digital production on campus, and for equipment required by students to read their materials in their residence.

5. Co-ordination

Some texts already exist in alternate formats, but they are scattered around the country and are often hard to find or to access. As many institutions create their own E-text materials on a casual basis, the files are not part of the national library database as they do not meet library standards. A great deal of time and money has gone into casual productions that are not shareable. Perhaps a system can be researched to see if it is feasible to share informally produced electronic texts.

6. Resolution of copyright issues

Scanning of text, downloading and sharing of files is already a reality with current technology, but performed by unskilled amateurs may result in corrupted or sub-standard texts. Legal, authoritative and accurate information must be available to all, irrespective of disability.

7. Universal standards

We would like universal standards for electronic text and digital audio and for conversion to the various different accessible formats. At present there are only locally developed standards for preparing E-text materials and dealing with non-text items such as graphs, charts, pictures, etc. There must be national (and preferably international) agreement on technical specifications that once established, will allow the broadest possible access to materials. This legislation must include the requirement to produce materials on demand in any format.

8. Publicity/Education

There must be wide dissemination of information about the steps to be taken to resolve this issue to both consumers and producers of text materials, through the media, educational institutions, and libraries.

Conclusion

While progress has been made as a result of technology advances, increased access to equipment for students with disabilities through federal and provincial funding, and increased technology skills of disability service providers and students, full accessibility of academic materials is still not a reality. Getting materials in a timely manner is still a critical issue. This barrier is a constant problem whether the materials are produced at a provincial centre, on campus, or by the student. Many of the solutions that institutions have established are merely band-aids to a big problem. Students with print disabilities continue to face discrimination on campus by not having equal access to printed materials as their non-disabled peers.

We trust that by working with our students and with NEADS, CACUSS, CAER, and other similar organizations, progress will continue to be made in ensuring equal access to an

education for all Canadians. We want universal access without the need to create accessible formats after the fact. Retrofitting is costly in both human and monetary terms. We challenge those in power to establish legislation that creates universal access to print materials in any format at the time the book is purchased and treats all Canadians equally.

Submitted to National Educational Association of Disabled Students

Dr. Pat Pardo
President, CADSPPE

CADSPPE Focus Group

November 12, 2004
Ottawa, Ontario

Introductions and Agenda Review

Facilitator: Gladys Loewen, Past President, CADSPPE

Gladys Loewen welcomed participants to the CADSPPE (Canadian Association of Disability Service Providers in Post-Secondary Education) Focus Group on Alternate Format. She then introduced the following members:

- Vince Tomassetti and Yolaine Ruel, facilitators of the group discussions and
- Carolyn Wiebe, Laurie Keenan, and Kim Archer, CADSPPE Board members.

The meeting was designed to focus on how CADSPPE can move forward on the issue of access to alternate format for students with print disabilities, as all colleges and universities struggle with this issue. For the past few years, CADSPPE has offered several workshops and ad hoc committee sessions to this topic. It is time to compile a list of issues and ideas from a national perspective on what the next steps are in order to ensure access to academic material for students with print disabilities. This information will allow the CADSPPE Board to determine and prioritize activities needed to assist higher educational institutions across Canada.

Loewen noted that although the Focus Group is a CADSPPE-organized event, the proceedings will go to the National Educational Association of Disabled Students (NEADS), which will help with their project. The results of the focus group would also be presented at the NEADS conference the following day.

Loewen explained that the format of the meeting would consist of large group discussions, breakout discussions in 3 small groups with one bilingual group, and reports back on key priorities to guide CADSPPE.

Brainstorm Vision Statement

To envision learning communities in Higher Education that value the concept of equal access to print materials and work to ensure equal access to print information in campus learning environments.

Loewen invited the group to brainstorm and refine this Vision Statement to frame the day's discussions. The following discussions and iterations ensued:

- A participant suggested adding the critical concept of "timely access." Although "equal access" encompasses timeliness, "timely access" is a key component that should be emphasized, especially when working with partners.
- A delegate noted that "web materials" and electronic information should be included. The group decided to just use the word "information."
- A delegate suggested removing the "work to."

A new version of the Vision Statement resulted:

To envision learning communities in Higher Education that value the concept of equal and timely access to information and ensure equal and timely access to information in learning environments.

- The group noted that the word "information" was too general, as the issue is not about materials related to social life on campus but about materials for the learning environment only. These include courses, registration, and research materials, focusing on course materials. Participants suggested using "academic materials" or "information in the academic environment."

- The delegates discussed the purpose of the Vision Statement, whether it is for in-house use or to be disseminated and promoted widely. Loewen explained that it was primarily to guide the day's meeting, although it may be used outside as well.
- A participant suggested replacing the word "envision" with "promote," "create," or "have."

A further refinement of the Vision Statement resulted:

To have learning communities in Higher Education that value the concept of equal and timely access to information in the academic environment.

Participants discussed the need to strengthen the message of "valuing" the access.

The resulting statement was as follows:

To have Higher Education value the concept of equal and timely access to information in the academic environment.

- The group discussed the need to focus on the target population rather than on "Higher Education."
- The issue is related to "valuing" as well as "facilitating," although the "facilitating" part is about how to do the work, which is beyond the scope of a Mission Statement.
- Delegates agreed that this Vision Statement is about CADSPPE. It cannot include what we want other groups to do, such as publishers and government.
- Participants decided to refer to "post-secondary education" rather than "Higher Education," since "Higher Education" may not cover vocational programs. It was also decided to keep the word "environment" in order to cover the context surrounding academic courses.
- A delegate said "equal and timely access" should be the subject of the sentence, not "postsecondary education."

The resulting Vision Statement was unanimously approved:

To ensure equal and timely access to academic information in post-secondary educational environments

The group agreed to revisit this statement following the day's discussions.

Breakout Groups

- Identify signs of success in the provision of alternate format materials in campus learning environments

Notes from Breakout Group chaired by Vince Tomassetti.

(Note: participants of this group were post-secondary disability service providers and represented 4 provinces).

"I will know that we have been successful in achieving our vision of offering alternate format materials in all campus environments when..."

Participants pointed to timeliness of receiving materials as a key sign of success. In discussing what would be a reasonable timeframe, they noted that it depends on the format and course content. Some formats take longer to convert. For example, documents for courses such as math or computer science that have unusual symbols would take longer to convert than an English novel.

A delegate commented that some professors create their course as they teach. Others responded that professors must be sensitized to students' needs. They have a responsibility to provide materials in a reasonable manner. The universal design (UD) method is a good approach that professors should be urged to adopt.

Moreover, the internal structure of universities needs to be better organized and student-centred. Two weeks is a reasonable timeframe for receiving alternate formats, but the university should begin co-ordinating 6 months in advance of the course beginning. Ideally, various alternate formats should be available for disabled students at the same time that regular materials are available for non-disabled students. That would be equity. Also, disabled students should have the same access to last-minute course changes.

A participant noted that another sign of success is students taking responsibility: they come to the centre ahead of time with a plan.

The group then discussed whose responsibility it is to produce the alternate formats. Participants said that students should have a choice—it depends on the individual, the nature of the disability, and whether it's seen to increase independence and vocational skills for life. However, delegates agreed that technology should primarily remain a learning tool for students, not a production tool. Students are there to learn, not to work, and the time they spend producing materials could be better spent studying. Furthermore, it must be kept in mind that disabled students are already disadvantaged due to their disability. They face a host of systemic barriers and already have much more difficulty negotiating the environment than non-disabled students. Their critical study time should not be compromised.

The delegates also discussed the quality of the alternate formats produced. Student-produced materials are likely to be inferior to professionally produced materials. However, students must balance timely access with a less perfect product. As well, they must balance the time it takes to learn from a superior copy versus the time it takes to learn from an imperfect copy that might contain errors or incomplete information.

A participant noted that she has been receiving far fewer requests from students to write a letter asking for an extension for assignments and exams due to not having the materials to study. This is another sign of success.

Better co-ordination among different channels—publishers, bookstores, professors, etc.—is important. A “friendlier” Copyright Act would also help to support alternate formats, especially large print. More multimedia materials should have both open and closed captioning, particularly closed captioning for hearing impaired students. A related issue is real-time interpretation for all campus activities, including audio-visual multimedia such as live concerts and plays, perhaps provided in multimedia rooms. Websites and documents should also be totally accessible, for example through WebCT and PDF files.

Group Reports to Plenary; Summary of All 3 Groups:

Signs of Success:

- Students receive everything at the same time or within a reasonable timeline.

- Disabled students have the same access to last-minute course changes.
- Professors are more sensitized to disabled students' needs.
- Technology is used as a learning tool, not a production tool. Student is viewed as a learner, not a worker.
- Students have a choice to produce their own alternate formats or not.
- Disabled students can choose to have imperfect materials immediately or perfect materials later, but there is recognition of their need for correct and equal information.
- Students can purchase text in choice of format.
- There is no need to defer exams due to late material.
- Closed or open captioning is available for all students.
- Accessible WebCT and PDF files are available.
- There is universal access to technology, training, and materials to all people, not only disabled students.
- Professors do not have to do more work to ensure access.
- Disabled students would not have to ask for help, since materials will be available.
- Everyone is happy.
- Every need and environment incorporates accessibility, including research, the library, web, media, and lab.
- Students do not have to wait.
- Every student can find information efficiently.
- Self-identification is no longer necessary.
- Faculty practice UD. Only courses that are accessible and use UD are offered, and all class notes are posted on the web.
- There is less demand on human and physical supports and services, such as research assistants and note-takers.

Summary of Key Points:

- Students are satisfied.
- Students have the right information at the right time and place. Disabled students can purchase/receive resources in the appropriate format at the same price in the same place (library, bookstore, etc.) at the same time as non-disabled students.
- Post-secondary environments practice UD.

- Self-identification is no longer necessary.
- Identify barriers to achieve the signs of successes in the provision of alternate format materials in learning environments.

Notes from Breakout Group chaired by Vince Tomassetti

The following barriers came quickly to mind:

- Last-minute students
- Multiple requests from multiple students at the same time
- Professors not thinking ahead and not providing materials until the last minute, such as Course Packs, or materials for exams and tests
- Administration delaying in hiring professors and establishing time tables
- Publishers frequently producing new editions that are 90% unchanged
- Limited resources such as money, equipment, and technology
- Lengthy production times that include scanning, editing, and reformatting
- Lack of co-ordination and procedures to share resources nationally and provincially.

A participant pointed out that the lack of co-ordination among disability service providers, libraries, publishers, etc., was a major barrier, as many books produced on campus are unsharable. He suggested www.bookshare.org, a website that maintains a collection of digital books for those who are blind or visually impaired for American citizens. Another participant noted that sharing materials has legal ramifications.

The group then discussed the quality of alternate format as a significant barrier. Tomassetti suggested a rating system—for example, to be accepted, a document must have at least a 75% accuracy rate. Another participant said the major issue is access to maps and graphs, such as tactile graphics. Another delegate added that although audiotape is no longer used very much, many readers are volunteers and the quality of the audio books produced is often low.

Technology presents another barrier. Sometimes there is no access to the needed technology, or the service provider or student is untrained in the use the technology. A student's disability may also prevent him or her from accessing the technology.

Several delegates voiced frustration that these same issues have been lingering for so many years. For example, improvements such as online journals introduce additional barriers when they are not in accessible and sharable formats. However, other participants acknowledged that it is much easier now to obtain e-text from some major publishers; some even offer a choice between PDF and Microsoft Word format. One participant noted that of the students who have received e-text from a publisher, no complaints have been received so far as to inadequate quality or missing pages.

Returning to the topic of converting books that have graphs and tables into e-text, a delegate suggested a PDF Converter sold by the company ScanSoft. It converts PDF files into Word documents that look just like the original, including columns, tables, and graphics. Other participants mentioned other products, including a virtual printer from Abbey, products from Abbey Systems, and assistive technology products from Kurzweil that help with scanning and reading. Another barrier is the lack of trained people able to use these products and produce these materials, especially in the science and math fields.

The group then discussed who has the responsibility to provide the materials. There are human rights policies and legislation in place, but no enforcement. Filing a complaint to a publisher can take several years. As well, although it's clear that colleges and universities have responsibility, it is not clear which entity is responsible within these institutions. Is it the bookstore, library, disability services office, or external agencies such as publishers?

Some say it's the originator of the information who is responsible, i.e. the publisher. Others say that if a post-secondary institution chooses certain textbooks as part of its curriculum, it has a responsibility for making these books accessible. A delegate pointed out that a university is responsible for materials it owns, not those it doesn't own, since copyright laws have jurisdiction over what a university can provide.

A significant and unfortunate barrier under Section 32 of the Copyright Act affects persons with perceptual disabilities. This section states that it is an infringement of copyright to make a large print book. This raises the question that the Copyright Act conflicts with human rights legislation. The Act also disallows reproducing cinematographic work.

A participant pointed out that there needs to be a way to catalogue and share information already converted and available in alternate formats, such as through the library systems. Sometimes only portions of books are available, and these should be catalogued as well. Moreover, equal access also means equal quality. The quality of e-files from publishers should match the quality of the original printed books. Yet how important the quality is also depends on the importance of the book in the course and the importance of the course to the student.

Finally, the group noted that publishers' files are not always accessible. As well, many books are available but inaccessible because they are in the Recording for the Blind and Dyslexic (RFB&D) format, available to US citizens in different formats than those available in Canada.

Group Reports to Plenary; Summary of All 3 Groups

Barriers to achieving success include:

- Publishers and professors who don't plan ahead for accessibility
- Administration's late planning of schedules
- Last-minute students
- Frequent revised book editions
- Materials co-ordination across Canada
- Legal ramifications of productions
- Limitations surrounding Course Packs
- Students' skills for technology
- Lack of training on materials production
- Lack of responsibility for materials production
- Campus jurisdictional issues
- Publishers' files not always accessible
- Lack of legislation to support access
- Lack of standardized format across Canada
- Lack of court challenges
- Lack of integrated library systems across Canada
- Lack of integrated standardized technologies to support access and format
- Lack of collaboration with K-12 to prepare students for post-secondary education

- Publisher fears regarding copyright infringement issues
- American resources are not available to Canadians
- Lack of training for faculty, administration, students, and disability service providers
- Issues of funding as well as administrative prioritization
- The need to wait for collaboration with adaptive software producers before launching software application development
- Differences between national and provincial procedures and regulations
- Lack of knowledge of alternate formats

Summary of Key Points

- Training and attitude within and around the post-secondary environment
- Timeliness, resources for production, retrofitting
- Systemic barriers that students cannot control but are subject to and affected by, such as legislation.
- Students having to produce their own materials and therefore losing critical study time
- Identify goals/tasks that can be implemented in moving CADSPPE toward the Vision Statement

Notes from Breakout Group chaired by Vince Tomassetti:

Vince Tomassetti invited the group to look at the previously identified barriers and determine the tasks required to overcome them, keeping in mind that change is inevitable and new technologies will always be appearing.

A delegate noted that CADSPPE really has no jurisdiction but perhaps can study existing systems and identify models of best practices to share with other post-secondary institutions, publishers, the federal government, provincial education ministries, etc. Perhaps standards for the production of materials can be identified.

Another delegate said that it is a matter of advocacy and sensitizing faculty to access and alternate formats issues. For example, to address faculty's lack of knowledge, the models could be posed as "tips" for professors or information on how to create accessible websites and other information.

The next participant suggested providing additional training for professors on how to create WebCT etc. from scratch, without requiring them to redo existing work. CADSPPE should push existing standards and practices for creating accessible university websites and other information.

A delegate stressed the importance of co-ordination between NEADS and CADSPPE, and the merits of using existing channels.

Another participant suggested modelling UD after certain standards. Canada has a Council of Ministers of Education (CMEC); CADSPPE should try to get on the Council's agenda. If the Ministers see as high priority the issue of equal access to web and electronic information for students with disabilities, they can influence policy within their own jurisdictions. Another channel might be the body of academic vice-presidents from universities across Ontario. A committee of Ontario disability service providers may request to do a presentation. There may be similar bodies in other provinces/territories. Beyond talking among this group, a participant recommended that CADSPPE tap into these decision-making processes and positions of power as a way to build clout.

A delegate said, "We should not start to disenfranchise." CADSPPE should do both bottom-up and top-down work. Information does not flow up automatically.

Tomassetti agreed that it is a good strategy to lobby at higher levels, since adopting and agreeing on a standard must be a decision from these levels. The participant who suggested this strategy added that if the Ministers see the CADSPPE group as experts, they might ask it to create a standard that they will implement. This is what the group wants. The Ministers have the authority to make these decisions.

A participant noted that individual colleges and universities could co-ordinate their efforts and use their collective purchasing power to approach vendors to adopt standards. Tomassetti added that many government agencies would only buy from vendors that offer accessible products. These are different ways of enforcing standards.

Finally, the group expressed a strong interest in creating a website to share resources.

- Identify strategies for achieving the goals previously identified, and identify who should be responsible.

Notes from Breakout Group chaired by Vince Tomassetti

A delegate reiterated that CADSPPE cannot impose responsibility on others, such as publishers or policy makers.

Another delegate said that he had collaborated with Neil Faba two years ago on a CADSPPE position paper on alternate format. It focused on broader materials than text. He suggested taking the issue back to a smaller working group and adopting it as a CADSPPE mission. It can then be promoted to groups such as the academic vice-presidents, the National Library Council, federal government ministries, etc.

A participant noted that bodies of responsibility vary from province to province. Some are more centralized than others. Tomassetti suggested that institutions as a whole are responsible, even if departments vary. Some provide very good disability services and many students go there for that reason. A delegate commented that they might end up with more students than they can handle.

Discussing further the idea of creating a smaller working group, the participants said that clear levels of communication and clear direction are needed, with a handful of people with strong interest and expertise in the issues. Such a group would need to define the strategy, take it forward to the Board, and then write the appropriate letters to get on the agenda of outside bodies.

The group also discussed who should be responsible when there are different partners producing alternate formats. Usually the publisher produces the original content material in house but hires outside for people and/or technology to create alternate formats. Due to economy of scale, it is common for publishers to outsource this work so that they do not need to hire permanent staff with specialized skills. This also allows more people to enter the market as producers of alternate format materials.

Another issue is that there should be legislation to pressure publishers to produce standards. However, there are several different existing standards. The issue of standardizing on specific formats must be resolved.

A participant said that a lot would change with the Ontarians with Disabilities Act, which stipulates that provincial standards committees will establish standards and that provincial authorities will enforce compliance. Publishers and institutions that do not comply can be fined.

The group also discussed copyright issues. The Copyright Act allows for conversion of print to alternate formats, but large print has been excluded.

A participant suggested lobbying bookstore managers as well as publishers. Another delegate said that CADSPPE should dedicate time and funding to hiring a professional lobbyist to lobby different bodies, as disability service providers themselves do not have time and resources to effectively do lobbying.

Group Reports to Plenary; Summary of All 3 Groups

Strategies to achieve success include:

- Encourage CADSPPE members to embrace UD and infuse it on campus.
- Encourage bookstores to only sell books that are available in alternate format.
- Promote inclusive teaching practices and have faculty practice UD instructional principles.
- Establish a resource sharing model. Discuss how to connect and share.
- Promote institutional production standards to facilitate information sharing.
- Promote SMIL standards. (SMIL stands for Synchronized Multimedia Integration Language. It is a mark-up language that facilitates the co-ordinating and synchronizing of multimedia on websites.)
- Make it unacceptable to download responsibilities to students.
- Develop a model of best practice.
- Sensitize faculty to good teaching.

- Co-ordinate the efforts of NEADS, CADSPPE, and CAER (Canadian Association of Educational Resources).
- Approach federal ministries to promote issues.
- Get information to flow up to people who can legislate and change standards.
- Share resources on websites.
- Have the group put collective pressure on vendors to standardize.
- Promote the use of existing infrastructure, such as in library systems across Canada. CADSPPE should inform these institutions on the issues and help make these structures easier to use.
- Lobby teaching centres to train faculty on technology, including UD and adaptive and learning technologies.
- Promote inclusive teaching practices.
- Educate departments and professors on accessibility and alternate format issues.

Key Summary Statements:

- Making students produce their own alternate format materials is not acceptable. Students are there to learn and to engage in their learning environment, not to produce, although they should have a choice to produce their own materials if they so wish.
- Develop universal standards for production across institutions so that materials produced in house can be registered, shared, and made accessible.
- Use existing networks and services, such as national databases and library loans systems. They should be made more flexible and user-friendly.
- Require publishers to provide an accessible e-file for all textbooks sold in post-secondary bookstores. (Materials and publishers outside Canada must be separately addressed.)
- Expect CADSPPE members to shift to the paradigm of UD as their philosophical framework. Instead of accommodating one student at a time, this would make the environment accessible to all. Change the way accessibility is viewed on campus and the way faculty deal with courses. Create a procedure guide for national/universal use.
- Offer training for faculty on inclusive teaching strategies to make the classroom accessible by all.

- Identify Goals/Tasks that can be implemented in moving CADSPPE toward the vision statement.

Group Reports to Plenary: Summary of All 3 Groups

- Provide workshops and training for CADSPPE members on UD. Build this into the five-year plan.
- Require faculty to attend UD instruction workshops.
- Teach existing campus structures, such as disciplinary/ombudsman offices that receive complaints, about UD and its promotion.
- Produce an accessible books checklist to enable publishers, faculty, librarians, and bookstores to rate books before choosing, based on alternate format availability.
- Distinguish between publishers' responsibilities versus institutions' responsibilities to produce alternate formats.
- Lobby and collaborate with the federal government, provincial/territorial governments, NEADS and CAER, publishers, college/university administration and faculty, etc.
- Request institutions to list students' rights and responsibilities.
- Create a national guide of resources and procedures for those who receive, catalogue, and produce academic information materials. This will facilitate and support their work in accessing, sharing, and producing alternate formats.
- Produce a list of the rights and responsibilities of institutions.
- Establish a smaller committee composed of members with strong interest to generate a list of strategies to present to the CADSPPE Board.
- Pass legislation to require publishers to follow standards and use specific formats. (For example, promote SMIL. In theory an SMIL file can be converted into any other desired format.)
- Dedicate funding to lobbying.
- Publicize—for professors and others—the success stories and good initiatives at various institutions. Showcase adaptive/learning technologies in practice and establish a network of successful experiences and expertise.

Key Summary Statements:

- Use the national library system and improve its usability for post-secondary. Specifically use AMICUS and CWIP (Canadian Works in Progress). All librarians need to be aware that many materials are already posted. They should check these systems before producing a book in alternate format. Also, if they are producing such a book, register with CWIP so that others know.
- Develop a CADSPPE plan for action (five-year plan).
- Establish a listserv to share transcription ideas, successes, and experiences across Canada. Ontario has a disability services co-ordinators listserv that can serve as a starting point.
- Develop a national best practice guide. Ontario has such a guide.
- Promote UD to CADSPPE members to change the approach to service delivery.
- Showcase successes and initiatives.

Who is responsible?

- CADSPPE Board
- NEADS
- CAER
- Individual students and disability service providers
- Institutional administrators and faculty
- Publishers
- Legal environment
- Federal government (e.g. Library and Archives Canada, also the Council on Access to Information for Print-Disabled Canadians plays a key role)

Recommendations and Next Steps

Key Recommendations for CADSPPE

- Establish an action plan as part of a CADSPPE five-year plan.
- Implement the actions.
- Explore how UD can make a difference in the way disability service providers approach their jobs.
- Focus on changes to the environment, not individual accommodations.
- Establish a working group to guide the Board in further actions.

Next Steps

- Circulate today's proceedings to the group distribution list. Continue the momentum to share ideas and issues.
- Provide NEADS with today's proceedings for their Access to Academic Materials (ATAM) Project.
- Embrace a systemic change and continue promoting universal access with the legal community, educational institutions, and all levels of government.

Closing Summary

The group discussed outstanding several issues. First, there are pros and cons to legal responsibility regarding standards. Each model has different issues, and each province has different disability acts. Perhaps just the platform should be legislated, not the output product. Also, legal requirements sometimes do not make sense, but in the end they may be required if voluntary compliance does not occur.

Second, funding is a major issue when discussing alternate formats. Funding for institutional as well as provincial and national resources is required to ensure access to the right academic materials at the right time for the right price.

Third, disability service offices across Canada have different delivery models. Despite the different models of service delivery, it is clear that institutional access to an accessible publisher's file would assist all post-secondary disability service providers in ensuring full and equal access.

One suggestion is to have a national clearinghouse of standard publishers' files so that all post-secondary institutions have easy access to the publisher's file for all textbooks. The federal government is hoping to launch a pilot to test this model. The key is to have the alternate format with the accuracy and quality of the original. Publishers should be required to produce a format that meets the needs of all users.

A topic of this importance requires national and provincial action at many levels. If the enthusiasm captured in this group of 22 people can be maintained, CADSPPE will succeed

in moving closer to providing academic materials to post-secondary students with print disabilities at the time in the right place in the right format at the right price.

In closing, Loewen noted that a great deal of commonality came from this meeting of representatives from five provinces and included disability service providers, librarians, and guests all who have an interest and a responsibility in working with the provision of materials in alternate formats. She thanked everyone for participating and assisting CADSPPE in moving forward in the struggle to ensure equal access for students with print disabilities.

Participants of the Focus Group

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Disability-Related Support Review:

Submission to the Ministry of Training, Colleges and Universities, from the Steering Committee on Transcription Services (Ontario Ministry of Education) (February 2004)

For many students with a print disability (blind, visually impaired, learning disability and/or physical disability), the ability to read or manipulate print text material is difficult or impossible. For students in post-secondary education where the pace of classroom learning is rapid, the need for reading text material prior to lectures is imperative to success, limited or no access to text material can be barriers to learning, or to a positive and equitable educational experience.

Many students with print disabilities do not ever see a textbook. Many students receive texts immediately prior to the commencement of exams, which forces them to complete all required reading in a limited time. Students find it difficult to follow along with lectures, which place them at a significant disadvantage when compared with their non-disabled cohort.

Overview of Transcription Services at Ontario Publicly-Funded Post-Secondary Institutions

In the Ontario post-secondary system, roles and responsibilities are articulated in the *Service Resource Manual, Alternate Format Materials for Post-Secondary Students with Print Disabilities*, developed by the Resource Services Library (RSL) of the William Ross Macdonald School (WRMS).

WRMS has co-ordinated the provision of audio, Braille, electronic text, and large print post-secondary textbooks for students who are print-disabled since 1983. This centralized transcription service is available to Ontario post-secondary students.

Services Provided

The service provides transcriptions of the following course-related materials:

- complete texts
- articles, course packs or workbooks (limited formats)
- chapters or parts of chapters of books up to 120 pages (tape only)

The service does not provide:

- class handouts
- examinations

It is recommended that orders be submitted as soon as course material is identified, preferably three to four months before material is required. Generally, the material is loaned for one academic year.

Role of the Contact Person

Each college and university has a contact person responsible for registering students and placing textbook orders with the RSL. This staff member usually works in the institution's Office for Students with Disabilities (OSD) or in the main library.

Role of the Student

Students should provide the contact person with course outlines and reading lists containing complete bibliographic information of required texts. This information must be given to the contact person as soon as possible. If books are to be transcribed and the producers require print copies, it is the student's responsibility to supply the contact person with print copies of the required text.

RSL Process and Procedures

Upon receipt of an order from an institutional contact person, RSL will search the title to determine the availability of the alternate format requested. RSL will order previously recorded or Brailled titles from the appropriate agency.

If the text is not available, RSL will assign the order to a print alternate material producer. RSL will notify the contact person where the text order has been placed and the producer will notify the contact person if a print copy is required for transcription.

When the producer receives a copy of the text, the producer will provide RSL with the details of the production (e.g. timelines, number of pages, etc.)

RSL will then issue a work order to the producer and notify the contact person about the estimated completion date.

When the material has been transcribed, RSL will ship it to the contact person.

The material is returned to RSL by the contact person.

Overview of Activities at the Federal Level

In order to address the lack of published materials available in alternate medium, the National Library of Canada, the federal cultural agency responsible for collecting and preserving Canada's publishing heritage, and The Canadian National Institute for the Blind funded The Taskforce on Access to Information for Print Disabled Canadians. In October 2000, The National Library of Canada and the CNIB released a joint report entitled: *Fulfilling the Promise: Report of the Task Force on Access to Information for Print-Disabled Canadians*. The report made a number of far reaching recommendations and advised that a Council on Access to Information for Print Disabled Canadians be established. As a result of this report, the Council was established in 2001.

One of the recommendations of the joint taskforce was a National Clearinghouse for print alternate material.

The Council, in partnership with the National Library of Canada and Library Archives of Canada, will be commencing a pilot project for a clearinghouse of holdings of print alternate materials in September 2004.

The long-term goal of the project is to allow a user to access a text directly from a transcription service producer. In turn, the transcription producer would have access to the text in an electronic format from the clearinghouse where it was deposited by the publisher. The institutions and the government would have no special role in this process.

At this time, there are a number of outstanding issues with respect to the pilot projects, including:

- determining who will compensate the transcription producers for the transcription services, and;
- balancing copyright protection for the publisher against the users' rights to have materials in print alternate mediums.

In addition, the Council is undertaking a research project in co-operation with the National Educational Association of Disabled Students to examine access to academic material for print disabled post-secondary students.

Response to Ministry Questions

1a) What works well?

- Co-ordinated approach is unique in Canada: Every institution has a contact person who works with the RSL to ensure that students have access to print alternate material.
- There is a manual and best practices document that outlines how the system works. These documents are regularly updated to reflect changes in the system.
- Contact persons have a listserv that allows them to share information easily.
- Steering committee provides guidance at the system level and a direct link to the ministry, e.g. the committee organizes professional development sessions for the contact persons.
- Students are guaranteed a certain level of quality for materials transcribed by suppliers.
- As the system is funded by provincial government directly, institutions also provide dedicated support, e.g. salaries of contact persons.
- Institutions are able to take advantage of the Inter-Library Loan system, which saved approximately \$800,000 in 2003-04.

- As EDU co-ordinates service for both elementary/secondary and post-secondary, there are opportunities to undertake transition planning.

1b) What doesn't work well?

ISSUE	RECOMMENDATION
The RFP process to tender the production of alternate format materials is cumbersome.	Make the contract term two rather than one year.
More transition planning from secondary to post-secondary studies is needed: the systems are different and students are not always aware of how the post-secondary system works at the beginning of their post-secondary studies; for example, students with financial need must apply to the BSWD in order to receive funding to buy reader equipment upgrades necessary to access the material in print alternate format.	Request the ministry's Steering Committee on Transcription Services to work with RSL to identify areas in which transition planning could be implemented and make recommendations to the ministry review timelines of funding sources to facilitate student access to adaptive equipment in a more timely fashion.
Despite the manual, a best practices document and the listserv, there are inconsistencies in the way institutions administer service. This is because service is affected by individual institutions administrative practices. For example, an institution that has a late deadline, a deadline that it does not enforce, or no deadline for faculty to submit reading lists for courses, may mean that an order to RSL for a text may not be received until after the course has begun.	Request the ministry's Steering Committee on Transcription Services to identify systemic issues and make recommendations to the ministry.
Students who do not qualify for BSWD often cannot access the equipment needed to read the texts in print alternate material. While the institution will provide this equipment, the student cannot take it home and often must share it with other students. This causes issues during crunch times, such as exam period and when a student is rushing to catch-up after	Review BSWD to ensure students are not disadvantaged due to ineligibility for equipment funding.

ISSUE	RECOMMENDATION
there has been a long delay to receive the material. These issues are further complicated if the student's disability limits the amount of time he/she can spend on campus, for example, if the student is dependent on Wheel Trans.	
The current system requires that institutions produce some in-house documents, such as course packs, exams and course outlines. Institutions that provide good service often see an increase in the number of students requiring this accommodation without a corresponding increase in funding.	Request the Steering Committee, in consultation with IDIA and CCDI, and college and university library associations to develop a strategy for storing, cataloguing and sharing of material produced in-house.
In some instances, institutions are scanning and editing texts internally in order to provide materials in a timely fashion.	The steering committee investigate the cost efficiency of a centralized versus a decentralized service.
Students often cannot get the material in the format of their choice.	

2) What is the impact of the report from the Ontario Human Rights Commission?

If the report's finding that publishers are responsible for providing all publications in print alternate material was the number one issue, turn around time would be addressed in many cases. However, the report does not make clear the publishers' responsibilities; that is, it does not fully define what type of alternate format should be provided.

The Steering Committee recommends that the ministry work with the OHRC on the guidelines that are to be developed to accompany the report. The Steering Committee offers its expertise to the ministry on this issue.

3) What other supports could the ministry put in place to further assist institutions?

The Steering Committee recommends that:

In its report back to colleges and universities on its disability-related support review, the ministry highlight to the college presidents and university executive heads the need to raise with their Senates key issues that affect students with print disabilities, such as:

- the need to review and enforce course outline and reading list deadlines;
- the need for faculty who write their own textbooks to discuss with their publishers the availability of their textbooks in electronic formats.

The ministry work with the federal government, other provinces and territories, and publishers to develop a long-term and viable process to ensure that students with print disabilities have access to quality materials in a timely manner.

Also see the report, "The Opportunity to Succeed: Achieving Barrier-free Education for Students with Disabilities," from the Ontario Human Rights Commission. Several service providers, including the CNIB (who submitted this information for our consideration) contributed to this report:

www.ohrc.on.ca/en_text/consultations/ed-consultation-report.shtml

W. Ross MacDonald School (May 2004)

To achieve the most efficient results possible in the ordering/delivery and receipt of alternate format text material, the Transcription Steering Committee, along with representatives of the W. R. MacDonald School (WRMS) in Brantford, recommend the following best practices be followed.

Contacts

The following items suggested for contacts should assist RSL to expedite the delivery or conversion of text in a more expedient manner. Should any of these processes not be followed, contacts can be reasonably assured of delays in the processing of textbook requests.

1. Institutional contacts should provide ALL complete and accurate information including:
 - full name of text - full name of author
 - proper edition - ISBN
 - location of text if - date required
 - desired format is - required format
 - already available - copy of text to be transcribed
 - complete name, - tapes rewound before returning
 - address, member- with inserts included
 - ship number of
 - requesting student
2. Contacts to return faxes/phone calls in a timely fashion when reply is necessary concerning student requests.
3. Contact should provide student's name/ when returning material.
4. Establish a consistent contact person with RSL.
5. Inform RSL immediately of any contracts cancelled with producers.
6. Search every possible source for required text material prior to submitting order.
7. Provide a list of which chapters of the text are required at the outset of the term to ensure producers can convert and deliver the required text in a timely fashion.

WRMS

The following are a list of practices that should be followed by RSL. If any of these fail to be observed by RSL, delays in the processing of orders may occur. Contacts should consult with the manager at WRMS and/or the chair of the Transcription Steering Committee:

1. RSL should inform contacts if material/requests are/not available and an approximate delivery date.
2. RSL should provide to contacts a comprehensive list of suppliers of alternate text.
3. RSL should ensure that all tapes are marked with inserts.
4. RSL to notify contacts of/when procedures are not followed.

Producers

To further enhance the transcription of text not already available from other the sources, RSL recommends producers comply with the following procedures. Any deviation from these can result in the ability of RSL to facilitate orders in a timely manner:

1. Producers should send inserts/indexes with material as it is produced.
2. Producers should notify RSL of what material has been produced and shipped directly to the student.
3. Producers should notify RSL when the order has been completed and shipped.
4. Producers should inform RSL whenever cancellations have been requested by the contact.
5. When invoicing producers should notify RSL what material has been shipped direct to the student and what has been sent to the contact.
6. Producers should notify RSL as to the total number of volumes required for the completion of the text conversion.

College Committee on Disability Issues - Ontario (November 2004)

The College Committee on Disability Issues (CCDI) reports and acts as an advisory body and resource to the Co-ordinating Committee on Student Services (CCSS), which in turn, reports through the College of Applied Arts and Technology (CAAT) Co-ordinating Committee to the Committee of Presidents (COP) of the Association of Colleges of Applied Arts and Technology of Ontario (ACAATO). CCDI's role includes recommending policies and procedures for the implementation of services to students with disabilities in Ontario.

CCDI supports the recommendations and actions proposed in the CADSPPE submission paper on "Access to Academic Materials for Students with Print Disabilities" as it voices the concerns of disability services providers nationally.

Disability Services Providers of Ontario Colleges and Institutes of Technology and Advanced Learning promote a philosophy to "equalize access and opportunities that shape the educational experiences of students with disabilities to learn and demonstrate their competence" (*Orientation for Success*, May 2000, p.13). Many students with print disabilities do not start off with a level playing field as they are unable to access all of their

materials in alternative format for semester start-up. The frustration for disability services providers is that there is no national central clearinghouse or database that can be accessed to determine the availability of materials. The capacity of institutions to produce materials internally is limited by demands on staff, lack of qualified staff, and lack of appropriate equipment. CCDI's response to the Disability-Related Support Review (Feb. 2004) conducted by the Ministry of Training, Colleges and Universities (MTCU) indicates that for the province of Ontario, the current funding mechanism for print alternate materials is highly problematic. There is low student satisfaction given that significant delays in receiving materials can seriously impact student progress. CCDI suggests to MTCU that it:

- Undertake a review of this fund in view of the benefit of providing all services in-house at each institution.
- Provide institutions with the resources to provide books, handouts and other print materials electronically (e.g. high-speed scanners, scanning program, staff costs to edit text).
- Actively lobby publishers to provide materials electronically.
- Encourage government to enact legislation or regulations similar to that in the US regarding E-text.

Should consideration be given to in-house facilities at each post secondary institution, adequate funds would have to be provided as the CADSPPE document states for the training of qualified staff, for equipment for the institution as well as equipment that would be readily available and accessible to students. Many students are not eligible for funding through the Canada Students Loan Program and/or provincial student loan programs as they don't meet the criteria and therefore are unable to purchase their own equipment. In Ontario, for example, to access the Bursary for Students with Disabilities (BSWD), students must qualify for the Ontario Student Assistance Program (OSAP). Disability services providers confirm that a student is in financial need and is in need of disability related services and accommodations, but because a student is ineligible for OSAP the services and accommodations cannot be purchased. The cost to access books from Recording for the Blind and Dyslexic (RFB&D) can be prohibitive for some students and Canadian institutions are ineligible for institutional memberships because of US copyright laws. CCDI proposes that the bursary be granted on the basis of the educational

requirements of the effects of the disability and on the financial need of the student. CCDI proposes that disability services providers at each institution liaise with financial aid offices to develop an appropriate financial needs test that could be correlated with a disability needs test and applied at each institution equitably. Students with print disabilities would be able to purchase their own equipment to facilitate speedy access to materials.

As suggested in the CADSPPE document, it is essential that publishers provide electronic copies of all publications in a standardized, accessible, text format and develop and adopt agreed upon standards to make non-text items such as diagrams, charts and graphs accessible electronically. With electronic formats being made available at the same time as printed materials, the biggest barrier that students with print disabilities encounter as they begin their programs will be eliminated, and they will be provided with an equal opportunity to succeed along with their peers.

Provincial education ministries and disability services providers need to continue to lobby for federal legislation that makes it mandatory for publishers to produce all publications in E-text, and for their holdings to be housed on a central database so that required materials can be readily accessed by anyone. In addition, a database for internally, institutionally produced alternative materials co-ordinated by a national organization such as the National Library Service is essential to avoid duplication of efforts and to reduce costs.

CCDI looks forward to participating in discussions and supporting the efforts of national organizations such as CADSPPE, NEADS and CACUSS as resolution is sought to the longstanding issues faced by persons with print disabilities. Improving access to education for this group will improve access to education, whether it is formal or informal, for all Canadians.

Canadian Association of Educational Resource Centres for Alternate Formats

By Mary Anne Epp (February 2005)

Summary

This paper describes the current services and issues provided by members of the Canadian Association of Educational Resource Centres for Alternate Formats (CAER). The main strength of CAER is its collaborative and collective approach to the issues of serving students with print disabilities in Canadian post-secondary institutions.

Ninety-seven percent of print materials are not transcribed in alternate formats. The members of CAER have therefore developed collaborative and collective strategies for bridging the gap for students with print disabilities. These include:

- Direct services and interlibrary loan services
- Production of alternate formats
- Reference and information services
- Partnerships
- Research and development
- Advocacy and public policy development
- Training and literacy

This report also outlines a list of issues to address that require ongoing attention. These include:

- Efficient access to publishers' files
- Extension of copyright exceptions
- Production standards
- International agreements for resource-sharing
- Accessibility of on-line courses
- Accessibility of media resources
- Lack of funding for Braille production
- Isolated university disability services
- Inadequate adaptive technology access and training

- Lack of cataloguing of alternate formats
- Inadequate lead times for production
- Inconsistent communications with disability providers

Introduction

CAER is a consortium of provincial educational service centres that provide alternate formats and technology to Canadian students with print disabilities through a mandate from the respective provincial ministries of education/advanced education. In addition, CAER has two members that are university library services that also serve members of the consortium through interlibrary loan services.

Three of the members provide province-wide services to the post-secondary community in their province. The British Columbia College and Institute Library Services provides a co-ordinated library service to the colleges, institutes and agencies in BC, and through contract, one university for production services. Special Materials Centre, Department of Education in Manitoba, provides production and loan services to post-secondary students in Manitoba. W. Ross Macdonald School is responsible for provincial production services for Ontario's post-secondary community.

Since only three percent of all print materials in English is ever transcribed into alternate formats for people with disabilities, CAER members needed to find a way to maximize access through a variety of methods while being as efficient and cost-effective as possible with limited financial resources.

Print impairments include all types of perceptual disabilities related to the use of print: blindness, visual disabilities, learning disabilities, multiple disabilities, some forms of physical, neurological, and chronic disabilities and illnesses that require the accommodation of material in alternate formats.

The main strength of CAER is its collaborative and collective approach to the issues of serving students with print disabilities in Canadian post-secondary institutions.

The Mandate for CAER ⁷ is to:

- promote the sharing of resources;
- encourage the use of new technology, particularly in relation to alternate format production;
- extend and share this knowledge with all CAER members;
- provide the opportunity to discuss and study points of common interest, in particular provincial, regional, Canadian and international issues;
- significant developments in members' centres;
- information on policy, procedures, statistical data etc.;
- discuss and adopt common procedures and practices in such areas as production quality standards and interlibrary lending;
- advise and provide input to educational ministries on evolving issues and trends;
- establish and maintain linkages and to speak as a unified voice to such association organizations as the Canadian Braille Authority, the Canadian Braille Literacy Foundation, Recording for the Blind and Dyslexic, Canadian National Institute for the Blind, the National Library of Canada and the Library of Congress;
- communicate with publishers, vendors, suppliers and individuals to develop positive relationships and to publicize members' services; and
- to provide the opportunity for participation in learning activities or professional development.

The Need

People with print disabilities may require learning materials in a variety of alternate formats: audiobooks, large print books, Braille, CD-ROMs, tactile graphics, electronic texts, digital audio, tactile graphics, captioned video, or descriptive video. Many of the digital resources are used with adaptive technology such as screen readers, which provide a synthesized voice that narrates the material on a computer screen.

⁷ Canadian Association of Educational Resource Centres for Alternate Format Materials/Association canadienne des centres de ressources d'éducation. Terms of Reference, February 8, 1996.

Students with print disabilities need resources equivalent to their peers in the same courses. They need access to:

- textbooks for their basic course work;
- learning resources for essays, research reports, oral presentations and skill development information literacy skills, technology and training to access library catalogues, online databases and other sources of information, such as CD-ROM encyclopaedias and multi-media reference tools; and
- Web resources that are accessible through screen readers.

They need to be able to:

- identify and locate research materials that are available at their own institutions, online or through interlibrary loan; and
- participate actively, effectively and fully in online courses.

Increasingly, students need to gain skills to help themselves through training in the new formats, awareness of services and information literacy skills.

The subject matter of courses ranges across the spectrum of all post-secondary vocational, undergraduate, graduate and professional courses.

Learning materials include (but are not limited to):

- Textbooks
- Workbooks
- Assignments and exams
- Orientation guides
- Online courses
- Online reference and periodical databases
- Electronic resources
- Library catalogues
- Print periodical indexes
- Journal articles
- Reference books
- Vocational materials

- Web resources
- Coursepacks
- Audio-visual resources (audiotapes, slides, videos, films, multimedia, etc.)

In order for the resources to be made accessible, they need to be transcribed into an alternate format or produced in a form that is compatible with adaptive or assistive technology, such as screen readers, television monitors that enlarge print, software to enlarge screen print or captioned materials.

Mission and Goals

The CAER mission is to provide the widest range of access to information resources for post-secondary students in alternate formats in the most responsive, effective, efficient and economical manner.

The goals of CAER are:

- provide the services in a timely manner;
- identify the needs and formats in a responsive way;
- match the information with the appropriate format;
- investigate and implement new adaptive technology; and
- develop standards and processes to achieve efficiencies.

Strategies

To fill the gap in access to resources for post-secondary students, the members of CAER have developed collaborative and collective strategies to provide as many resources and options for post-secondary students to assist them to access alternate formats. CAER has developed strategies in several areas:

1. Direct services and interlibrary loan services
2. Production of alternate formats
3. Reference and information services
4. Partnerships
5. Research and development
6. Advocacy and public policy development

Direct Services and Interlibrary Loan Services

CAER has developed protocols for borrowing and lending resources within the consortium. This practice has ensured the optimization of existing resources and the efficient sharing of resources.

Access to online databases and other central repositories was a necessity for determining the location of existing resources. Therefore, the searching of existing agency collections is always a first step in the sourcing process. The National Library of Canada (now Library and Archives Canada) AMICUS online database has been a key resource for decades. It lists all reported alternate formats in Canada. Most CAER members report their holdings to the AMICUS database and to CANWIP, Canadian Works in Progress.

Production of Alternate Formats

The members share knowledge and expertise in the development of alternate format technology. Collectively the members produce alternate formats in the following formats:

- Electronic text (word processing files) used by students (visually impaired, learning disabled) with screen voice readers, such as JAWS, to read print materials using a computer;
- Electronic text (image files) for students that can use PDF documents to enlarge the print or manipulate the image;
- Large print (print and digital);
 - Electronic text (PDF format) for students with low vision who can enlarge their own print products or read them off the computer screen
 - Large print: print enlargement on paper
 - Large print: electronic format;
- Digital audio, CD MP3 format, with human voice, no navigational features;
- Digital audio, CD MP3 format, with human voice and navigational features;
- Digital audio, CD MP3 format, with synthesized voice, transcribed from electronic text, with file names;
- Digital audio, CD MP3 format, with human voice, with navigational features (DAISY format, DAISY stands for Digital Audio Information Systems). This format includes ability to find specific pages, chapters, sections and, in some cases, index entries. DAISY formats vary from simple to complex mark-up features.

- Tactile graphics
- Braille

Reference and Information Services

Here are some examples of the range of reference and information services offered by the members. Not all members offer all the services.

- a. Answering questions on accessible resources:
 - providing subject searches for alternate formats;
 - identifying and locating resources in accessible formats;
 - providing advice on accessibility for online learning.

- b. Explaining services to clients and prospective clients:
 - defining the service mandate and services;
 - introducing new alternate format products;
 - explaining resource sharing arrangements.

- c. Training:
 - raising awareness through workshops, listservs and other communication vehicles;
 - training students and employees in the use of adaptive technology;
 - providing demonstrations of alternate formats at workshops and on the members' Website;
 - presenting workshops on alternate formats, accessible library resources and information literacy.

- d. Online Resources:
 - providing accessible online Web catalogue of holdings;
 - updating links to accessible resources at other agencies and sources;
 - listing standards of production and service provision;
 - advising on adaptive technology specifications and purchases;
 - producing guidelines on how to make online courses accessible;

- citing information on copyright issues related to people with perceptual disabilities.
- e. Needs Assessment:
- maintaining listservs to determine needs and provide information;
 - undertaking research on emerging needs.
- f. Information Literacy:
- assessing needs for information literacy;
 - developing tools and resources for information literacy.

Partnerships

Partnerships with institutional service providers and other agencies facilitate cost savings in production. The importance of the partnerships between CAER members and their institutional service providers cannot be over-emphasized. For the services to be successful, every component of the service chain needs to work in harmony: instructors, curriculum, identified resources, disability co-ordinators, librarians, interlibrary loan technicians, media technicians, couriers, bookstores, print shops, producers, equipment loan agencies, publishers, and of course, the primary client, students.

Membership in the CAER consortium continues to have benefits for lending and borrowing of existing resources, sharing of ideas on production, copyright, national public policy on accessibility issues, advocacy on copyright reform, development of standards for production and cataloguing of alternate formats.

A key component to resource sharing is the role of Library and Archives Canada, the federal service that has provided database support for resource sharing of alternate format materials for many decades. The reporting of alternate format resources to the national database of alternate formats is a core pillar of effective reciprocal borrowing and lending system. Most CAER members report their holdings to the national database.

In the past several years, CAER has provided leadership in the development of cataloguing standards for alternate formats. A working standard for tactile graphics cataloguing has been adopted for implementation across Canada.

CAER has participated in a number of national projects and studies such as the current initiatives of the National Education Association of Disabled Students, Library and Archives Canada and those undertaken by the Learning Disabilities Association of Canada.

Members have contributed to the Council on Access to Information for Print Disabled Canadians and the Canadian Library Association/Library and Archives Canada Working Group to Define the National Network for Equitable Library Service.

Several members were invited to join a national pilot project on a clearinghouse for publishers' files. The project is led by the Library and Archives Canada in co-operation with Access Copyright. If successful, the pilot will pave the way for a streamlined process for requesting and receiving publishers' electronic files for production, thereby reducing time and cost of alternate format production for Canadian books.

CAER, in partnership with other Canadian groups, made considerable effort to encourage the sharing of digital resources, particularly DAISY books (digital audio), by the major supplier Recording for the Blind & Dyslexic in New Jersey. For decades, CAER members have borrowed analogue taped books and electronic texts from RFB&D on a fee basis. However, the new DAISY books are not available for loan by Canadians, restricting access to a valuable resource. This needs to change.

Members of CAER have joined the Canadian DAISY Consortium, developing expertise and capacity for production of DAISY books. Members of CAER have also contributed expertise and representation to the Canadian Braille Authority, a non-profit association responsible for the promotion, development of standards and access to Braille.

Research and Development

New technology evaluation is an ongoing need to achieve production efficiencies, offer better products to students, and continue the evaluation of accessible products. Members

continue to develop new technology and share their expertise with each other. Studies on student use and best practices have benefited all the members. Current studies are underway to determine the efficacy of the Unified English Braille Code.

Advocacy and Public Policy Development

CAER has presented briefs on copyright issues, exemptions from the tariff on blank recording media and other national issues.

CAER members made presentations information on accessibility issues in writing and at hearings of the National Library Council on Access to Information for Print Disabled Canadians.

CAER members continue to advocate for easier access to publishers' files and digital audio products that are internationally accessible, specifically DAISY books.

Training and Education

CAER members continue to share their expertise at conferences and workshops and develop training programs for practitioners and students to access adaptive technology and alternate formats. These programs and resulting training tools are shared with the members.

Issues

While many strategies have been implemented to expand access to information, CAER members continue to work on the removal of obstacles to increase access for post-secondary students and to improve efficiencies in the services to clients. Some of these areas for further development are summarized below.

1. Improving efficient access to publishers files

While a pilot project for a Canadian publishers' clearinghouse has been initiated, there has been no implementation to date. Several CAER members are participating in the pilot project. This is a good step forward in improving efficiencies. However, it needs to be recognized that the vast majority of books used by post-secondary students are non-Canadian. International agreements are required to extend the expediting of publishers files from the U.S.

2. Advocating for extension of copyright exceptions

While Canada's copyright law permits a number of exceptions for people with perceptual disabilities, two areas remain as obstacles. These are large print and sign language for motion pictures. CAER has contributed briefs on these topics to associations, federal agencies and government. We need a generic statement in the copyright legislation to exempt all formats useable by people with perceptual disabilities.

3. Advocating for production standards

While CAER members follow national and international standards for production, there are many producers who do not. CAER members have assisted in developing minimum standards with national associations and groups such as CADSPPE. This process needs to be encouraged to ensure wider access to useable alternate formats.

4. Advocating for international agreements for resource sharing

For many years, CAER members have borrowed analogue audiotapes and electronic texts from RFB&D in New Jersey, a major supplier of post-secondary textbooks. To date, RFB&D does not lend its DAISY books to Canadian clients. The reciprocal borrowing and resource sharing is essential to the efficiency and cost savings of both countries. Copyright laws in both countries permit interlibrary loan of resources. CAER, Library and Archives Canada, the DAISY consortium and other groups have been advocating and trying to negotiate with RFB&D to open up the resource sharing to both countries.

5. Recommending consistent copyright information for publications produced by colleges

Publications created by institutions themselves are often not clearly identified for copyright. These are often problematic, in that the copyright status is either unclear or incorrect. The lack of standards creates delays in production. Institutions need to be encouraged to produce and identify their own publications appropriately.

6. Advocating and providing leadership to make online courses accessible

The problem is the lack of knowledge of online course developers about the need for producing online courses in an accessible format and connecting to library resources that are accessible. Some CAER members have developed guidelines for creation of accessible Websites and online courses. “Forethought” is always better than “afterthought”. This is an important beginning for supporting online learning initiatives.

7. Offering advice on the accessibility of media resources

While some progress has been made to bridge the gap in print resources, the access to media resources (both digital, analogue and pictorial) requires considerably more attention. CAER members are monitoring the research and development of GBMH and other production groups to identify the issues and recommend implementation of these standards.

8. Advocating for Braille production

Braille-using students are not strong self-advocates for this medium. However, they often experience academic and financial difficulties because this medium is not available to them. The K-12 system encourages Braille literacy as an essential component to literacy. Studies show that there is a high correlation between employment and Braille users. While technology has provided some relief (when students can afford it) to produce their own Braille printouts of literary works, subject areas in the technical and scientific areas require manual transcription. Post-secondary services need to be funded adequately to provide the services more equitably.

9. Advocating services for private post-secondary institutions

An entire sector of post-secondary education is not providing equitable access to alternate formats for post-secondary students with print disabilities. These include the private post-secondary institutions across Canada. A strategy needs to be developed to address this potential gap in services. The provinces need to

encourage high quality programs and services and ensure services are applied on a consistent, system-wide basis so that learners' interests are safeguarded.

10. Encouraging standards and networking of university services

Most universities do not have access to the full range of services provided by CAER members. The University of British Columbia and St. Mary's University have reciprocal arrangements for borrowing and lending under the CAER partnership. Most other universities do not borrow and lend in a similar manner. CAER has produced a statement on guidelines for standardization for CADSPPE members (institutions that produce alternate formats).

The lack of a centralized service for universities means that the individual institutions need to develop their own production facilities and procedures. This is wasteful in many ways:

- there is not a uniform standard for production. The lack of standards often makes the alternate formats unsuitable for sharing or listing;
- there is no economy of scale for an effective production unit;
- there is no uniformity of service across the system that the students can rely on. The resources created at the local university level are not shareable or shared; they are usually not listed in a national database;
- there are few standard interlibrary loan protocols or arrangements between institutions for sharing the resources;
- the over-burdened and under-trained university staff does not have the up-to-date information on new digital formats or the expertise on how to produce them or access them.

11. Assistance with access to technology and training

Many students could use more accessible resources on their own if they were able to obtain equipment and get the training they need to use the equipment effectively. Some agencies provide adaptive technology to students. Some CAER members provide training in the technology and provide advice to institutions on specifications for hardware and software. This initiative needs to be developed

further to create awareness and “buy-in” from local library personnel in providing information access services through adaptive technology.

12. Leadership in training

Extensive training is available to students in the K-12 system. This initiative is also needed at the post-secondary level. Some CAER members provide training for disability service providers. These programs need to be extended throughout the province.

13. Encouragement of cataloguing of alternate formats

Many producers do not catalogue or report their productions of alternate formats to AMICUS, the national database. This addition needs to be promoted. However, for the cataloguing to be useful, all products need to follow at least minimum standards of production and cataloguing. Further, the cataloguing and national reporting of tactile graphics will greatly enhance the access to an important medium for blind students and will greatly reduce the need for expensive duplication of effort.

14. Advocacy for improving lead times for productions

The practice of late registration and identification of required readings late in the process of registration causes considerable delay in providing alternate formats to students in a timely manner. Students are often required to make do with less useable materials or formats. Part of the responsibility rests with the student for early identification and part of it rests with the system.

15. Encouragement of effective communications by disability service providers and students

CAER members make every effort to maintain timely communications with students and disability service providers to confirm appropriate resources, validate student equipment access and negotiate the best format within the time frame. Often students do not return the telephone calls or the service providers are not available during a crucial period, especially during the summer vacation period.

British Columbia College and Institute Library Services (CILS)

By Mary Anne Epp (January 2005)

Summary

This paper describes the current services and issues identified by British Columbia College and Institute Library Services (CILS), a centralized service funded by the BC Ministry of Advanced Education and located at Langara College. CILS serves BC's post-secondary students with print disabilities in the colleges, institutes and agencies in BC and through contract, one university for production services. CILS serves post-secondary students in vocational and academic programs, and offers a wide range of programs to fulfil its mandate. Appendices provide a description of alternate formats and a sample list of courses covered.

Ninety-seven percent of print materials are not transcribed in alternate formats. CILS has therefore developed strategies for bridging the gap for students with print disabilities.

These include:

- Direct services and interlibrary loan services
- Production of alternate formats
- Reference and information services
- Partnerships
- Research and development
- Advocacy and public policy development

This report also outlines a list of issues to access that require ongoing attention. These include:

- Efficient access to publishers' files
- Extension of copyright exceptions
- Lack of production standards
- International agreements for resource-sharing
- Inconsistency of copyright information in publications produced by colleges
- Inaccessibility of on-line courses
- Inaccessibility of media resources
- Lack of funding for Braille production

- Lack of services for private post-secondary Institutions
- Isolated university disability services
- Inadequate access to adaptive technology and training
- Training
- Inconsistent or non-existent cataloguing of alternate formats
- Inadequate lead times for production
- Inconsistent communications by disability providers

Attached to the report is a summary of the criteria for service relating to the CILS mandate. This report identifies student characteristics, role definitions of service providers in the provincial network, priorities for core services and production. Appendices cover the attributes of books, characteristics of subject material, learning style preferences, computer and information skills and competencies.

Introduction

BC College and Institute Library Services (CILS) is a co-ordinated, centralized service funded by the BC Ministry of Advanced Education to support the delivery of accessible resources to BC's students with print disabilities in the colleges, institutes, university colleges and agencies. The service has been growing in the number of customers and diversity of products and services for over 20 years. Approximately 450 students are served each year in 18 institutions. One university also contracts with CILS for production services. From time to time, as resources permit, other community and educational agencies contract for production services by CILS. CILS also reciprocates with other agencies across Canada to lend and borrow alternate formats to their clients.

The centralized, co-ordinated and collaborative approach appears to be a "best practice" in Canada. The central service is able to maximize and optimize the investment in specialized human services, research and development into new adaptive technologies, maintenance of a physical production studio, development of network protocols and reciprocal agreements with other agencies, economies of scale, development and maintenance of standards and continuous improvement in efficiencies.

Since only three percent of all print materials in English is ever transcribed into alternate formats for people with disabilities, CILS needed to find a way to maximize access through a variety of methods while being as efficient and cost-effective as possible with limited financial resources. Early on in its evolution as a centralized service, CILS recognized that it was impossible to fill the gap of 97% by itself. Therefore, CILS developed strategies to begin to bridge the gap, concentrating on the specific needs of the post-secondary students that it served. These strategies are described in this summary of best practices.

Print impairments include all types of perceptual disabilities related to the use of print: blindness, visual disabilities, learning disabilities, multiple disabilities, some forms of physical, neurological, and chronic disabilities and illnesses that require the accommodation of material in alternate formats.

Authorities for services, definitions of disability and appropriate accommodations are cited in the Canada Copyright Act (persons with perceptual disabilities), the BC Human Rights Act (“the duty to accommodate”) and the BC Post-secondary Disability Services Guidelines for Disability Definitions, Documentation and Accommodation. The Guidelines were prepared by the Disability Services Working Group on Reporting and Definitions (DSWG). DSWG included representatives of the Ministry of Advanced Education, disability co-ordinators, the Adult Special Education Articulation Group, and members of centralized services, CILS and ISP (Interpreting Services Program).

CILS ensures implementation of the BC Ministry of Education’s goals in the following areas:

- Equity of access to information: to increase access to alternate formats appropriate to the needs of students with print impairments
- Institutional effectiveness: to improve the ability of institutions to provide effective support to students with print impairments
- Program diversity: To provide more effective access to the post-secondary curriculum for students with print impairments

The Need

To ascertain need, CILS communicates regularly with members of the CILS Advisory Committee, representing the Ministry of Advanced Education, the Council of Post-Secondary Library Directors, Canadian National Institute for the Blind, Special Education Articulation Committee, Disability Resource Network, Provincial Resource Centre for the Visually Impaired, Assistive Technology BC, educators, distributed learning experts and students.

People with print disabilities may require learning materials in a variety of alternate formats: audiobooks, large print books, Braille, CD ROMs, tactile graphics, electronic texts, digital audio, tactile graphics, captioned video, or descriptive video. Many of the digital resources are used with adaptive technology such as screen readers, which provide a synthesized voice that narrates the material on a computer screen.

Students with print disabilities need resources equivalent to their peers in the same courses. They need access to:

- textbooks for their basic course work;
- learning resources for essays, research reports, oral presentations and skill development information literacy skills, technology and training to access library catalogues, online databases and other sources of information, such as CD-ROM encyclopaedias and multi-media reference tools; and
- Web resources that are accessible through screen readers.

They need to be able to:

- identify and locate research materials that are available at their own institutions, online or through interlibrary loan; and
- participate actively, effectively and fully in online courses.

Increasingly, students need to gain skills to help themselves through training in the new formats, awareness of services and information literacy skills.

The subject matter of courses ranges across the spectrum of all college courses.

(See CILS Courses in appendix 3).

Learning materials include (but are not limited to):

- Textbooks
- Workbooks
- Assignments and exams
- Orientation guides
- Online courses
- Online reference and periodical databases
- Electronic resources
- Library catalogues
- Print periodical indexes
- Journal articles
- Reference books
- Vocational materials
- Web resources
- Coursepacks
- Audio-visual resources (audiotapes, slides, videos, films, multimedia, etc)

In order for the resources to be made accessible, they need to be transcribed into an alternate format or produced in a form that is compatible with adaptive or assistive technology, such as screen readers, television monitors that enlarge print, software to enlarge screen print or captioned materials.

Mission and Goals

The CILS mission is to provide the widest range of access to information resources for post-secondary students in alternate formats in the most responsive, effective, efficient and economical manner.

The goal of CILS is to:

- provide the services in a timely manner;
- identify the needs and formats in a responsive way;

- match the information with the appropriate format;
- investigate and implement new adaptive technology; and
- stopped extend the access to information for CILS clients.

The intended outcomes of the service are:

1. More efficient use of resources in the provision of alternate formats
2. Enhanced expertise in developing alternate formats
3. Enhanced quality and consistency in provision of alternate formats
4. Enhanced knowledge about alternate formats for institutional personnel

CILS employees maintain personal contact with the students and service providers in order to ensure that the service is responsive to their information needs. In addition, new energy has been focused on assisting service providers and librarians in the institutions to provide a better, more informed local institutional service. CILS has collaborated more effectively with local institutions through the development of new communication strategies, the renewed Website and awareness workshops.

Strategies

To provide as many resources and options for BC's post-secondary students in access to alternate formats, CILS has developed strategies in several areas:

- a. Direct services and interlibrary loan services
- b. Production of alternate formats
- c. Reference and information services
- d. Partnerships
- e. Research and development
- f. Advocacy and public policy development

a. Direct Services and Interlibrary Loan Services

CILS works with interlibrary loan departments within each post-secondary library to develop protocols, communication strategies and delivery logistics within the institutions. The purpose is to apply the circulation and interlibrary loan practices to the lending, delivery and tracking of materials for students. This

network is invaluable to ensuring effective delivery and communication systems between the central service and the institutional library.

Last year, CILS employees developed a more comprehensive checklist for identifying students' personal skills, access to technology, and preferences for alternate formats. Co-ordinators began to use the checklist, making it easier for the CILS staff to match the student attributes and the available alternate formats.

There is no substitute for the interview with students to determine the exact needs and share information about the services. This is not always possible due to time constraints. However, anytime CILS needs to produce a new book, the staff continues the process of interviewing students who require digital audio productions. This step has become necessary to provide a higher level of accountability for production on the part of both the student and CILS. During interviews, the staff learned that students are also going through a transition in their use of computers and other adaptive technology. More students are acquiring the capacity to use computer-based products. Sometimes, students update the information provided by co-ordinators on useable formats. The interview also builds commitment by the student to use new products and learn the new software. The staff also learn about the financial impediments to accessing technology because many students don't qualify for grants.

Access to online databases and other central repositories is a necessity for determining the location of existing resources. Therefore, the searching of existing agency collections is always a first step in the sourcing process. The National Library of Canada AMICUS online database has been a key resource for decades. It lists all reported alternate formats in Canada. The staff also searches the catalogues of CAER members, the CNIB Catalogue and other national and international sources. Every conceivable source is searched to avoid unnecessary expense and delay in alternate format production. Reciprocally, all CILS productions are reported to the national database at the time of production (CANWIP) and when completed.

b. Production of Alternate Formats

Some institutions expect their own students to produce their own alternate format materials. This activity is sometimes necessary for ephemeral materials or readings, when lead times do not permit a centralized approach to solve the problem. However, we have also heard from students that taking the time away from actual studying has a great affect on academic performance. Further, students are rarely provided with the level of production equipment, training skills or standards that make the end product shareable on a national basis. CILS attempts to bridge the gap by providing timely materials (within the lead time constraints) in a format that is suitable for the student. In addition, CILS works with national and international organizations to develop standards of production that will assist any producer to create a more shareable product.

For almost 20 years, CILS produced mainly analogue audiotapes. In recent years, the repertoire of production capability was increased to create a variety of products to meet the diverse needs of students. The evolution to digitized products has assisted in this process. Production efficiencies were also instituted to improve delivery times.

CILS has the capacity to produce the following formats:

(See appendix 1 for a complete description and visit the Website for demonstrations at www.langara.bc.ca/cils)

- Electronic text (word processing files) used by students (visually impaired, learning disabled) with screen voice readers, such as JAWS, to read print materials using a computer
- Large print (print and digital)
 - Electronic text (PDF format) for students with low vision who can enlarge their own print products or read them off the computer screen
 - Large print: print enlargement on paper
 - Large print: electronic format

- Digital audio, CD MP3 format, with human voice, no navigational features
- Digital audio, CD MP3 format, with synthesized voice, transcribed from electronic text, with file names.
- Digital audio, CD MP3 format, with human voice, with navigational features (DAISY format) (DAISY stands for Digital Audio Information Systems) This format includes ability to find specific pages, chapters, sections and, in some cases, index entries. This format is used **only** for materials that **require** human voice and navigational features.
- Simple tactile graphics
- Braille is not produced at CILS due to lack of funding mandate

The capacity for developing new digital products was enhanced by the creation of a production team that dispersed the expertise among the employees and removed a major bottleneck in production.

The addition of a synthesized voice to electronic materials that were suitable for E-text conversion significantly reduced production costs and improved the speed of delivery of the product to the student.

New technology evaluation included the synthesized voice products, efficiency tools and new software programs for producing digital products.

In addition, staff requested publishers' files for new productions. The success rate was approximately 60%. The availability of publishers' files reduces the amount of digital scanning, an inaccurate and labour-intensive process. Even with publishers files' there is often considerable deconstruction necessary to provide the accessible final product.

A prototype publication in many different formats was produced for Langara College to transcribe the basic orientation guide, *Student Connections* into alternate formats. These included accessible Web versions, large print (print),

large print (PDF), CD Audio, DAISY (digital audio), video (with sign language), E-text and others.

c. Reference and Information Services

There is growing evidence that students are not always asking for the resources they require. Self-advocacy is very difficult for students with print disabilities. They need to be encouraged overtly to discuss their issues. The “hidden demand” means that a great deal more effort needs to be put into outreach strategies, communicating about existing services, developing products that meet the students’ needs, planning services in a strategic manner, and strengthening partnerships and awareness at the institutional level to invite student participation in the services.

The focus in the past year has been to strengthen the reference and information services to clients, to service providers and to institutional support agencies. The purpose is not only to provide direct CILS services to students, but also to assist institutions to improve their ability to provide effective support to students with print disabilities.

Reference and information services include:

- i. Answering questions on accessible resources:
 - providing subject searches for alternate formats
 - identifying and locating resources in accessible formats
 - providing advice on accessibility for online learning.

- ii. Explaining CILS services to clients and prospective clients
 - defining CILS mandate and services
 - introducing new alternate format products

iii. Training

- raising awareness through workshops, listservs and other communication vehicles
- training students and employees in the use of adaptive technology,
- enhancing information on the Website
- providing demonstrations of alternate formats on the Website
- presenting workshops on alternate formats, accessible library resources and information literacy

iv. Online Resources

- providing an accessible online Web catalogue of CILS holdings
- updating links to accessible resources at other agencies and sources
- listing standards of production and service provision
- advising on adaptive technology specifications and purchases
- producing guidelines on how to make online courses accessible
- citing information on copyright issues related to people with perceptual disabilities

V. Needs Assessment

- maintaining listservs to determine needs and provide information
- undertaking research on emerging needs

VI. Information Literacy

- assessing needs for information literacy
- developing tools and resources for information literacy

CILS, Assistive Technology BC and the Provincial Resource Centre for the Visually Impaired have collaborated on regional workshops in Vancouver, Victoria, Kelowna and Prince George to introduce emerging alternate formats to disability

co-ordinators and other service providers. One session was called, *E-texts: The Myth, the Promise and the Reality*.

CILS developed a new workshop called "*Beyond the Textbook: Information Literacy for Students with Print Disabilities*", piloted it in Kelowna and presented it again in Vancouver. Several more regional workshops will be presented in the Spring. The pilot was funded in part by the Canadian Association of University and College Libraries (CACUL). The aim of these workshops is to bring together service providers from disability centres, the college/university libraries, public libraries and other areas of the post-secondary service partnership.

A fundamental tool, the CILS catalogue was made accessible through software upgrades and application of Web accessibility principles.

A survey was developed to determine the perception of library personnel in the BC post-secondary system on the level of access to library catalogues, online reference databases, media resources, and online courses. The study showed that there is definitely room for more awareness training for both librarians and disability service co-ordinators.

CILS commissioned a complementary study of actual accessibility issues by employing a blind consultant to review the BC post-secondary library catalogues and online databases. The study was supported in part by a grant from the Canadian Association of Disability Service Providers in Post-Secondary Education (CADSPPE). The study showed that while many resources are either partially or fully accessible, there is definitely room for improvement. The study provides a set of recommendations and guidelines for future development of online library resources. More work is also needed in the area of accessible media resources.

CILS has participated significantly in the NEADS study on accessible resources for students with print disabilities at post-secondary institutions in Canada. This research is a joint study of the National Educational Association for Disabled students, Library and Archives Canada and the Learning Disabilities Association of Canada.

CILS has created an enhanced Website with information on alternate formats, demonstrations of alternate formats, links to information sources, accessibility guidelines, standards, advice on online courses, and many more topics.

The Librarian has also participated in several online forums and courses, including topics on universal design (UID) and online accessibility (EASI). The director's presentation at the AMTEC conference in Montréal resulted in important connections with the Learning Disabilities Association of Canada and the Adaptech Project at Dawson College, a research project on adaptive technology for post-secondary students in Canada.

d. Partnerships

Partnerships with institutional service providers and other agencies have facilitated cost savings in production, enhanced access to resources for CILS clients and reduced turnaround times.

The importance of the partnerships between CILS and the BC institutional service providers cannot be over-emphasized. We call this the "internal network". For CILS to be successful, every component of the service chain from needs identification to delivery needs to work in harmony: instructors, curriculum, identified resources, disability co-ordinators, librarians, interlibrary loan technicians, media technicians, couriers, bookstores, print shops, producers, equipment loan agencies and of course, the primary client, students.

The clarification of roles is an important aspect of the continuing dialogue with institutions. CILS relies on disability co-ordinators to determine the eligibility for

services, and to assess the accommodation needs of students for alternate formats. To prioritise services, a discussion document on CILS Criteria for Service was produced and distributed to all disability service co-ordinators for comment. The document outlines the factors that affected decision-making and strategies for services, particularly for production of alternate formats. (See appendix 1)

Membership in the CAER consortium (Canadian Association of Educational Resource Centres for Alternate formats) continues to have benefits for lending and borrowing of existing resources, sharing of ideas on production, copyright, national public policy on accessibility issues, advocacy on copyright reform, development of standards for production and cataloguing of alternate formats.

Partnerships with local service agencies such as Assistive Technology BC (AT-BC), and the Provincial Resource Centre for the Visually Impaired (K-12) are critical to identification of need, access to equipment resources, anticipation of issues and sharing of expertise.

More recently, CILS entered into a partnership with the Canadian National Institute for the Blind for students to access the Online Digital Library. This partnership extends the access to CNIB resources in digital formats to students with visual impairments and learning disabilities. The large resource collection includes taped books, DAISY books, electronic texts, descriptive video and other alternate formats.

A key component to resource sharing is the role of Library and Archives Canada, the federal service that has provided database support for resource sharing of alternate format materials for many decades. The reporting of alternate format resources to the national database of alternate formats is key to the reciprocal borrowing and lending system of producing agencies of format materials. CILS has participated in and benefited from this initiative from its inception.

In the past several years, CILS has also provided leadership in developing standards for cataloguing of alternate formats. CILS authored a standards document for cataloguing tactile graphics, funded by the Canadian Braille Authority. Members of the Canadian Association of Educational Resource Centres and Library and Archives Canada reviewed the recommendations. A working standard has been adopted for implementation across Canada.

The director participated in a steering committee and contributed to a national project on access to academic materials for print disabled post-secondary students. The project is sponsored jointly by the National Educational Association of Disabled Students, Library and Archives Canada and the Learning Disabilities Association of Canada. The study will augment the studies already done by CILS in the identification of need for access to information.

As a member of the Adaptech Project, the director also has assisted with the surveys on access to technology and training for post-secondary students across Canada. The studies completed by this research group have been invaluable in providing CILS staff with information on adaptive technology and trends in their usage.

CILS was invited to join a national pilot project on a clearinghouse for publishers' files. The project is led by the Library and Archives Canada in co-operation with Access Copyright. If successful, the pilot will pave the way for a streamlined process for requesting and receiving publishers' electronic files for production, thereby reducing time and cost of alternate format production for Canadian books.

CILS, in partnership with other Canadian groups, made considerable effort to encourage the sharing of digital resources, particularly DAISY books (digital audio), by the major supplier Recording for the Blind & Dyslexic in New Jersey. For over 20 years, CILS has borrowed analogue taped books and electronic texts from RFB&D on a fee basis. However, the new DAISY books are not available for

loan by Canadians, restricting access to a valuable resource. This needs to change.

As a member of the DAISY consortium, the CILS team has developed capacity for production of DAISY books. CILS joined the Millennium Project led by CNIB to produce an introductory body of DAISY books in Canada. Through the consortium, CILS has received training and has contributed research and development to the evolution of the DAISY software on an international scale.

The Electronic Curriculum Collection and the Industrial Training Collection (previously held by the Centre for Curriculum Transfer and Technology) was downloaded for future transcription. CILS was granted copyright permission to use the collections for the transcription of government-owned documents for use by students with print disabilities.

CILS staff has contributed significantly and benefited in kind from associations such as the Canadian Braille Authority that has assisted with research grants to produce standards for alternate format production and cataloguing.

e. Research and Development

New technology evaluation is an ongoing need to achieve production efficiencies, offer better products to students, and continue the evaluation of accessible products.

Initiatives in infrastructure improvements have enhanced turnaround times and capacity to produce more books simultaneously. Unit costs of most formats have also decreased significantly.

New digital audio playback equipment was tested. CILS also purchased new efficiency tools for producing digital audio with synthesized voices. A server was purchased along with updated production equipment to improve efficiencies for production of electronic texts, DAISY books and digital audiobooks. Large Print

production efficiencies were also investigated and those that were immediately available, such as a binding machine, were implemented. New tools for scanning and conversion of PDF files to text were purchased.

Employees have attended conferences such as the CSUN Conference on Adaptive Technology in Los Angeles. This is the largest international conference on adaptive technology in North America. The team members discovered new adaptive technologies, developed new networks of sharing and strengthened established relationships with lending agencies, (such as Recording for the Blind & Dyslexic), Industry Canada, and continuing education program providers specializing in accessibility issues (such as EASI: Equal Access to Software and Information).

f. Advocacy and Public Policy Development

The director has also prepared briefs on outstanding copyright exceptions in the Copyright Act for submission to the Council of Ministers of Education, the BC Ministry of Advanced Education, the BC Library Association, Canadian Library Association, Association for Media and Technology in Education in Canada, Canadian Association of Educational Resources Centres for Alternate Formats (CAER), and the National Library Council on Access to Information for Print Disabled Canadians, and others. She also provided briefing notes and issues for the inclusion of alternate formats in the 2003/2004 Access Copyright model license, negotiated nationally by the Association of Universities and Colleges of Canada.

The director also participated in a joint effort to extend the “zero rating” provision in the Copyright Act regulations for audiocassettes to blank CDs and other recording media that are used to create alternate formats. The effort was successful, resulting in savings approximately 40% of the cost of the medium.

CILS presented information on accessibility issues in writing and at hearings of the National Library Council on Access to Information for Print Disabled Canadians.

The director collaborated with the CADSPPE (Canadian Association of Disability Service providers in Post-Secondary Education) (a section of Canadian Association of College and University Student Services (CACUSS)) to present a workshop on services to post-secondary students with disabilities and to demonstrate the new digital audio products in a poster session.

5. Overcoming Obstacles (Outstanding Issues)

While many strategies have been implemented to expand access to information, CILS continues to work on the removal of obstacles to increase access for post-secondary students and to improve efficiencies in the services to clients. Some of these areas for further development are summarized below:

a. Efficient access to publishers files

While a pilot project for a Canadian publishers' clearinghouse has been initiated, there has been no implementation to date. CILS is participating in this pilot. This is a good step forward in improving efficiencies. However, it needs to be recognized that the vast majority of books used by post-secondary students are non-Canadian. International agreements are required to extend the expediting of publishers files from the U.S.

b. Extension of copyright exceptions

While Canada's copyright law permits a number of exceptions for people with perceptual disabilities, two areas remain as obstacles. These are large print and sign language of motion pictures. CILS has contributed briefs on these topics to associations, federal agencies and government. We need a generic statement in the copyright legislation to exempt all formats useable by people with perceptual disabilities.

c. Lack of production standards

While CILS follows national and international standards for production, there are many producers who do not. These producers have generously sent products to CILS to use, but in most cases, the output has been unusable. CILS has assisted in developing minimum standards with national associations and groups. This process needs to be encouraged.

Efficiencies in two areas would make information much more accessible in a more timely manner. These include the production of large print (print versions) and tactile graphics. Technology for custom production of large print is needed. There are few experts in Canada in the production of tactile graphics. This expertise needs to be learned and expanded. CILS has been investigating options for large print production. Training in tactile graphics is needed.

d. International agreements for resource sharing

For many years, CILS has borrowed analogue audiotapes and electronic texts from RFB&D in New Jersey, a major supplier of post-secondary textbooks. CILS has paid the fee for students for the membership, the interlibrary loan fees and annual renewals. Although RFB&D and CILS are both members of the DAISY consortium, RFB&D does not lend its DAISY books to Canadian clients. The reciprocal borrowing and resource sharing is essential to the efficiency and cost savings of both countries. Copyright laws in both countries permit interlibrary loan of resources. CILS has been collaborating with CAER, Library and Archives Canada, the DAISY consortium and other groups to open up the resource sharing to both countries.

e. Inconsistency of copyright information in publications produced by colleges

Some publications sent to CILS to produce are publications created by the institution itself. These are often problematic, in that the copyright status is either unclear or incorrect. These books are returned to the requesting institution, because CILS can only produce books that have explicit and correct copyright statements. A template has been developed that can assist institutions as a “best practice” in documenting institutional publications more effectively.

f. Inaccessibility of online courses

The problem is the lack of knowledge of online course developers about the need for producing online courses in an accessible format and connecting to library resources that are accessible.

CILS has developed guidelines for creation of accessible Websites and online courses. “Forethought” is always better than “afterthought”. This is an important beginning for supporting the BC campus and institution-based online learning initiatives. CILS has also advised developers and instructors on how to make their on-line courses accessible.

g. Inaccessibility of media resources

While some progress has been made to bridge the gap in print resources, the access to media resources (both digital, analogue and pictorial) requires considerably more attention. CILS has continued to monitor the research and development of GBMH and other production groups to identify the issues and recommend implementation of these standards. CILS has encouraged libraries to use accessible media resources as sources of information as an alternative to print material. For example, commercial audiotapes of a radio presentation may be a good source of information for an essay.

h. Lack of funding for Braille production

Braille-using students are not strong self-advocates for this medium. However, they often experience academic and financial difficulties because this medium is not available to them. The K-12 system encourages Braille literacy as an essential component to literacy. Studies show that there is a high correlation between employment and Braille users. While technology has provided some relief when students can afford it to produce their own Braille printouts of literary works, subject areas in the technical and scientific areas require manual transcription. CILS has written many briefs to the Ministry over 20 years to request that Braille be funded and has established a task group to gather evidentiary data.

i. Lack of services for private post-secondary institutions

With the growth and proliferation of private post-secondary institutions, CILS has been getting requests from private colleges requesting services. Some of the callers feel they are entitled to the service because they are accredited. Accreditation should include the provision of accessible alternate formats. A strategy needs to be developed to address this potential gap in services. The province needs to encourage high quality programs and services and ensure services are applied on a consistent, system-wide basis so that learners' interests are safeguarded.

j. Isolated university disability services

One BC university contracts with CILS for production services. However, most universities do not have access to the full range of services provided by CILS. The University of British Columbia has a reciprocal arrangement for borrowing and lending with CILS under the CAER partnership. Some universities have expressed an interest in being served by CILS.

The lack of a centralized service for universities means that the individual institutions need to develop their own production facilities and procedures. This is wasteful in many ways:

- there is not a uniform standard for production. The lack of standards often makes the alternate formats unsuitable for sharing or listing.
- there is no economy of scale for an effective production unit.
- there is no uniformity of service across the system that the students can rely on. The resources created at the local university level are not shareable or shared; they are usually not listed in a national database.
- there are few standard interlibrary loan protocols or arrangements between institutions for sharing the resources.
- the over-burdened and under-trained university staff does not have the up-to-date information on new digital formats or the expertise on how to produce them.

k. Inadequate access to technology and training

Many students could use more accessible resources on their own if they were able to obtain equipment and get the training they need to use the equipment effectively.

CILS has led the way at Langara College in identifying the adaptive technology needed in the library to access information, to research and write the specifications and propose strategies. CILS staff has also developed training strategies to assist students to learn the technology. This initiative needs to be developed further to create awareness and “buy-in” from local library personnel in providing information access services through adaptive technology.

l. Training

CILS has initiated strategies for improving training in the new alternate formats, accessible library catalogues and online reference databases. These programs need to be extended throughout the province and on the Website.

m. Inconsistent or non-existent cataloguing of alternate formats

Many producers do not catalogue or report their productions of alternate formats to AMICUS, the national database. This addition needs to be promoted. However, for the cataloguing to be useful, all products need to follow at least minimum standards of production and cataloguing. Further, the cataloguing and national reporting of tactile graphics will greatly enhance the access to an important medium for blind students and will greatly reduce the need for expensive duplication of effort. Currently, CILS complies with all national standards for cataloguing alternate formats. CILS will begin cataloguing tactile graphics using the new national standard developed through a grant by the Canadian Braille Authority and implemented through a partnership between Library and Archives Canada and the Canadian Association of Educational Resource Centres (CAER).

n. Inadequate lead times for productions

The practice of late registration and identification of required readings late in the process of registration causes considerable delay in providing alternate formats to students in a timely manner. Students are often required to make do with less useable materials or formats. Part of the responsibility rests with the student for early identification and part of it rests with the system.

o. Inadequate communications by disability service providers and students.

CILS makes every effort to maintain timely communications with students and disability service providers to confirm appropriate resources, validate student equipment access and negotiate the best format within a reasonable time frame. Often students do not return the telephone calls or the service providers are not available during a crucial period, especially during the summer vacation period.

Appendix 1: Alternate formats

Electronic Text (E-text): (word processing files) used by students (visually impaired, learning disabled) with screen voice readers, such as JAWS, to read print materials using a computer. Electronic text can be further manipulated with software such as screen readers (JAWS), text to speech readers (such as Text Aloud, ReadPlease). CILS produces electronic text in ASCII, HTML, PDF, RTF and DOC formats.

Large Print: CILS produces a variety of large print formats:

- Electronic text (PDF) format for students with low vision who can enlarge their own print products or read them off the computer screen. Produced by Adobe Systems, Portable Document Format (PDF) allows documents to appear on the computer just as they would in print.
- Large print: print enlargement on paper
- Large print: electronic format (E-text)

Analogue Audio: Cassette tapes in analogue formats. This format is still available for loan, but is no longer produced by CILS.

Digital Audio: CD MP3 format, with human voice, no navigational features. These files can be read on any MP3 enabled device (hardware and/or software).

Digital Audio: CD MP3 format, with synthesized voice, transcribed from electronic text, with file names, no navigational features. These files can be read on any MP3 enabled device (hardware and/or software).

Digital Audio: CD MP3 format, with human voice, with navigational features and structure (DAISY standard) (Digital Accessible Information Systems). This format includes ability to find specific pages, chapters, section, and in some cases, index or topical entries. This format is used in special cases (sciences for example), where human voice is required or where navigational features are essential for using the book (such as reference material). This format can be read on any MP3 enabled device (without navigational features), on DAISY specific portable equipment (some navigational features), or, most effectively, using a computer with software (highest level of navigational features).

Tactile Graphics: Raised or sculptured drawings. CILS produces simple tactile graphics. CILS will also borrow tactile graphics when they are available.

Braille: A tactile system of cells of dots. CILS does not produce Braille at this time but will locate and borrow Braille when it is available.

Appendix 2: Criteria for Services

1. Introduction

The CILS mission is to provide the widest range of access to information resources for post-secondary students in alternate formats in the most responsive, effective, efficient and economical manner.

The purpose of CILS is to provide alternate formats of learning resources to students with print disabilities in the public post-secondary system in BC. The goal of CILS is to provide the services in a timely manner, to identify the needs and formats in a responsive manner, to match the information with the appropriate format, to investigate and implement new technology and extend the access to information for its clients so that the clients have equitable access to information for educational success.

This paper acknowledges the reality of funding and time constraints. While every effort is made to accommodate the needs of students with disabilities requiring alternate formats, it is not always possible to supply the student's preferred format, or indeed, in some cases, to supply any alternate format under certain circumstances where adequate notice is not given by the student or institution. Priorities therefore have been established to deal with as many requests as possible in the most efficient and effective manner given a certain range of conditions.

The analysis is based on 20 years of experience with students, collaboration with institutional service providers, the CILS Advisory Committee, and partners in the adaptive technology/alternate format sector.

2. Student Characteristics

In order to differentiate a core service from the more labour-intensive, time consuming and expensive production function, the priorities for service need to be differentiated.

CILS serves a population of approximately 450 students a year in BC, and under reciprocal arrangements with educational partners across Canada, another 150 students

in other educational institutions. In BC, the population served has the following characteristics: students with learning disabilities (2/3), students with visual impairments (1/3), and students with physical disabilities who cannot use conventional print (5%). This ratio of students is similar to that in other provinces.

Students with print disabilities require the same course materials that their peers require: textbooks, coursepacks, access to library resources, online reference and periodical databases, vocational materials and audio-visual resources. In order to make these materials useable, students need them transcribed into a format they can use: Braille, large print, tactile graphics, audio, electronic formats, and adapted audio-visual resources.

3. Authorities

Authorities for services arise from the mandate of the Ministry of Advanced Education in its funding letter to Langara College and the review of services by the Ministry. The activities and outputs are listed in five broad categories:

- Processing Requests
- Loan of Alternate Formats
- Research and Co-ordination
- Production of Alternate Formats
- Information Provision

Definitions are cited in the Canada Copyright Act (persons with perceptual disabilities), the BC Human Rights Act (“the duty to accommodate”) and the BC Post-Secondary Disability Services Guidelines for Disability Definitions, Documentation and Accommodation prepared by the Disability Services Working Group of the Ministry.

4. Role Definition

It is important to differentiate and understand the complementary roles of disability coordinators at the institutions, and the roles of the CILS employees acting in collaboration with local libraries to provide the information services in alternate formats.

Disability co-ordinators have the expertise and resources to prepare and validate the disability documentation of the student and to assess the learning accommodation needs of the student. They also identify the financial needs and assist with the procurement of appropriate accommodations and adaptive technology for the student and referral to appropriate agencies and services for financial and educational support. The disability co-ordinators determine eligibility of students for service and the need for alternate formats from a learning assessment perspective. The documentation is provided to CILS to comply with copyright laws and contractual relationships with partner agencies.

The role of CILS employees is to identify the information needs, locate the resources, circulate the resources, perform interlibrary loan functions, purchase copies when available from other agencies, loan equipment, answer reference and information questions, support the use of adaptive technology and alternate formats and collaborate with the institutional library to provide information to the students.

5. CILS Process

The first action of service is to receive the requests, validate the titles, identify the student needs, determine what resources are available in alternate formats and where they are located. When the alternate formats are not available, CILS considers the production of alternate formats for the information resources the students need, provided there are funds and sufficient time to do it. Alternatively, employees offer other options when the first choice of material cannot be provided in time. In addition, CILS employees assist service providers (co-ordinators and library staff) to learn about access to alternate formats and adaptive technology. In a continuous quality assurance program, the employees also interview students to ensure that the formats meet their needs.

CILS employees receive the requests from the validated student and process each request in the order in which it comes in. This order is necessary because students are not always able to register in advance in their institutions due to different standards of registration in each institution. Further, the identification of the material that needs to be transcribed is subject to the creation and issuance of course outlines and course

materials by the instructor, which may or may not be forthcoming when it is needed by CILS.

6. Priorities for Core Services

The core service to students is provided on a first-come, first-served basis, to those students identified as eligible by the disability co-ordinators in the institutions.

The core service includes:

- Identification of titles
- Identification of formats required
- Identification of student technical abilities and financial support systems
- Location searches
- Interlibrary loan
- Purchase of copies from agencies
- Equipment and software loans
- Circulation of existing resources
- Reference and information services
- Consultation on adaptive technology
- Referral services
- Assistance with the use of technology
- Referral services
- Equipment loans for those who do not qualify for other agency services

7. Priorities for Production

The production service has constraints that affect what kind of production is possible and when it is realistic to proceed with production. The objective of production is to fill the gap in information requirements by selecting the most effective format that can be produced in the most economical and efficient way to meet the students' needs, given the constraints of the situation. If production is not possible within the available timelines, institutions sometimes find local solutions to access such as providing personal readers, aides and in-house productions.

CILS has the expertise, equipment and resources to produce the following formats: large print (paper and digital formats) electronic files (pdf and text), simple tactile graphics and digital audio in either MP3 or DAISY formats. Braille is not now produced by CILS, but could be produced if it was funded as a sustainable function. An interim solution is to produce an electronic text that the student can translate into Braille pages on personal equipment.

Factors that need to be considered in the production choices and scheduling are:

- Availability of existing alternate formats
- Timeliness of request
- Format requested
- Course outline and sequence of the study process
- Availability of printed book
- Availability of electronic publishers' files
- Publishing, graphic presentation and quality of the print version of the book
- Attributes of the book: straight text, or does it contain illustrative material, mathematical symbols, musical notation, or computer notations
- Student access to equipment
- Ability of student to use equipment
- Availability of narrators and support staff
- Work volume at the time of the request
- Student preferences in format
- Student's financial support
- CILS' financial constraints
- Student learning preference and style
- Student computer and information literacy competencies

8. Process of Production

When a book is identified for production, employees immediately request publishers' files in order to speed up the production schedule. These files are generally provided free of charge, but can take from three days to three months to receive. If the publishers' files are not received within a month, or if the book is urgent, the book may be

dismantled and scanned in order to start the process. Scanning takes more time, requires considerable editing and is not the preferred method of production. The new pilot project establishing a publishers' clearinghouse will greatly improve the situation.

If an audio version has been requested, and if the book is straight text only and has a publishers' digital file, the files are transcribed with a synthesized voice to create a CD in MP3 format. This digital product is not the most desirable format because it lacks navigational features, but it is the quickest, cheapest, useable format for the student to get started as quickly as possible. Many students find it acceptable for the situation. This product is also the most economical to produce.

When a technical book is requested in audio format, a human narrator is required. Generally, CILS then deploys the DAISY production format because the book needs to be navigable for efficient use by the students. The level of navigation can vary considerably, depending on the nature of the book structure, and the timeliness of the production. Technical language, mathematical and scientific symbols, foreign languages, or computer programming require special conventions of description that conform to the standards set out by the internationally recognized taped book standards.

9. Summary and Conclusion

CILS has differentiated the criteria for core information services from those criteria necessary to determine production of new alternate formats. The different but complementary roles and responsibilities of the disability co-ordinators and CILS employees need to be understood and communicated. The criteria for eligibility for CILS services and the appropriate learning assessments are identified by the disability co-ordinators. CILS employees are responsible for the determination of appropriate strategies for identifying, locating and producing information resources.

CILS provides core services on a first-come, first served basis. Collaboration and effective communication between the stakeholders is essential for a successful and timely resolution of the access to information sources.

CILS applies a well-established set of criteria to the production of new alternate formats. The production decisions are based on the students' needs, the alternate formats requested, the attributes of the book or printed material, timeliness, the students' computer and information literacy skills and access to equipment and funding available at the time. The cost of production is assessed relative to the need.

Appendix 2a: Attributes of Books (Presentation of Material)

The presentation attributes of books have an impact on what kinds of transcription are needed to access the book. The subject content may also be a factor in the level or kind of transcription. The technical production methods used to produce the book may also be a factor. Transcription may be requested for textbooks, for on-line learning courses, for coursepacks, for periodical articles found through online reference searches, for audio-visual material, for vocational workbooks or other learning resources.

Here are a few examples of physical attributes of books that affect production techniques:

- Presence of charts, graphs, pictures and other illustrations and their use in the book
- Colours
- Columns
- Table information
- Marginalia
- Sidebars
- Different fonts
- Organization of information: e.g. is it straight text or a reference book, are footnotes and bibliographies at end of chapters or at end of books. Where is it best to put them?
- Pagination (e.g. pp. 1-56, or A1, B3, etc.)
- Presence and style of appendices
- Workbook format for questions and answers
- Mathematical and scientific notation

- Music notation
- Foreign language diacritics
- Foreign language alphabets or iconography
- Technical vocabulary

Appendix 2b: Subjects of Books (Content)

Here are some examples of the way in which the subject matter might affect the textual transcription and production decisions:

ABE Communications: may be largely straight text with some illustrations. In many cases, the text has already been produced in large print for easier reading ability.

Accounting: lots of tables, graphics, charts, spreadsheets, jargon.

Aircraft Maintenance: lots of diagrams. In most cases, the client will have a learning disability that allows him/her to see the diagrams so it doesn't require narration. However, the labels and notes around diagrams may need to be transcribed.

Biology: illustrations and terminology present a challenge.

Computer Manuals: often have screen prints that are difficult to transcribe or programming languages that have their own symbols.

History: some texts have sidebars and stories within the text page that need to be pulled out and located in a different sequence so that they make sense to the person listening or using the E-text version.

Mathematics: transcription of mathematical notation is not automated for E-text, audio or Braille formats.

Medical Terminology: terminology is not always transcribed easily with screen readers, voice synthesizers or audio transcription.

Music: musical notation has its own jargon and transcription requirements and requires specialized knowledge and skills to transcribe.

Office Assistant: typing books may have marginalia in handwriting or subscripts that show deliberate errors.

On-line Learning Products: most of these are not designed with accessibility in mind. If they were, it would be easy for students to use them with adaptive technology or for CILS to reformat them for use by students.

Reference books: usually dictionary in style, require navigation structures to provide appropriate access. Most reference books do not lend themselves to easy access in straight analogue narration. They require some kind of navigation support, the best of which is a structured approach such as DAISY.

Workbooks: many may have testing material where the questions are in one place and the answers somewhere else. This may also be the case with questions and answers within other textbooks.

Appendix 2c: Learning Style Preferences

Student Profile

Students from the K-12 system in BC have had access to a variety of formats including large print, taped books, electronic texts and tactile graphics and Braille for visually impaired students. Students with visual impairments have had services provided through local vision teachers and the Provincial Resource Centre for the Visually Impaired and SET BC for equipment.

Students with learning disabilities may have had some services provided through local school districts, parents and community agencies. Some have also had services through their school districts on a cost-recovery basis from the Provincial Resource Centre for the Visually Impaired.

Adult students may not have been exposed to any alternate formats in their educational history. This is particularly true of students enrolled in courses in Adult Basic Education or English as a Second Language, or students who come from other countries where these services have not been available.

Students with learning disabilities are often streamed into vocational courses and may not have been exposed to alternate formats in their previous education or have had limited access through their school districts to alternate formats.

Learning Styles

The student preference for learning formats is based on a number of factors including: their experience of what they have used before, or have training to access, or have the financial support to purchase equipment, or their level of awareness of the availability of alternate formats.

Some students are visual learners. Others are auditory learners. Those who have Braille training are often tactile learners. Many have a combination of these styles of learning. If a transcription of material is needed, the transcriber needs to understand the students' requirements and styles. For example, a blind person may need to have the illustrations in a book described either aurally or transcribed in tactile form. However, a person with a learning disability may require that only the words in a book be transcribed because they can not only see the diagrams but also often understand them even better than they would with words because they learn "in pictures". Students who are used to taped material have often learned listening skills to accommodate their inability to access text. Students who have used adaptive technology and screen readers for a long time have enhanced skills of understanding synthesized speech whereas students who have not been exposed to synthesized speech or who have low vocabulary skills may find synthesized speech inaccessible.

Appendix 2d: Computer and Information Skills and Competencies

Competencies that determine the format that a student can use:

- Able to use word processing software.
- Able to save and retrieve files.
- Able to manually use equipment such as tape recorders, DAISY playback equipment, computers, etc.
- Able to search and find material in a document.
- Able to navigate information in a book through the use of the table of contents, indexes.
- Able to use synthesized voice.
- Able to learn through listening.
- Able to sort, navigate, evaluate and use information from reference sources and the Internet.
- Able to search library catalogues and online reference databases

APPENDIX 2: THE SURVEYS

Student Questionnaire

September 30, 2004

Dear Student:

The Project

The following survey is being distributed as part of the National Educational Association of Disabled Students' (NEADS) project Access to Academic Materials for Print-Disabled Post-Secondary Students: A Partnership of Users and Service Providers. This project is being conducted through a partnership of NEADS, the Council on Access to Information for Print-Disabled Canadians, the Learning Disabilities Association of Canada, the Canadian Association of Disability Service Providers in Post-Secondary Education, and the Quebec Association of Post-Secondary Disabled Students. This initiative has been funded in part by the Government of Canada's Social Development Partnerships Program.

The Goals

The main goals of this important national research are to gather current information on the accessibility, availability, timeliness, and quality of educational materials in alternate formats for post-secondary students with print disabilities. Further, the aim is to identify gaps related to the provision and delivery of academic materials, in a format of choice.

The end product of the research will be a detailed report addressing how services and materials may be better co-ordinated and used, identifying gaps in the process of supporting academic materials requirements for post-secondary students with print-disabilities. The report will also identify the next steps to be taken towards better services for students with print disabilities.

Who Should fill out the Survey?

Post-Secondary Students

You should fill out the student survey if you have a print-based disability that requires that you receive academic materials in a format or formats other than print.

Survey Confidentiality

This is a confidential survey. When the results of this study are published, information you provide will remain strictly confidential, and your privacy will be completely protected. Statements that you make on the survey will never be linked to you or your post-secondary institution.

How Long will it Take?

The survey is comprised of 34 questions. Duration for completing this survey differs, but it should take no more than 20 minutes of your time.

How to Complete and Submit the Survey

Please complete the survey and return it to our office in the attached business reply envelope within one week of receiving it. You can also complete the survey online, by visiting www.neads.ca/atamsurvey1. This survey is available in both official languages and in alternate formats. If you require a French language questionnaire, or a diskette, large print, Braille, or audiotape version (in French or English) please contact us.

Questions?

If you have any questions regarding this survey or the project, you can email us at info@neads.ca, or call us at (613) 526-8008.

Thank You!

On behalf of the Access to Academic Materials for Print-Disabled Post-Secondary Students Project Steering Committee, we would like to thank you in advance for taking the time to complete this survey.

Sincerely,

Rachael Ross
NEADS' President

Liam Kilmurray
Project Consultant

Encl.

Informed Consent For The Questionnaire On Access To Academic Materials For Post-Secondary Students With Print Disabilities

1. The purpose of this Government of Canada-funded study is to examine the current accessibility to alternate formats for students with print disabilities.
2. I understand that I am asked to respond to a questionnaire in a format and language (English or French) convenient to me. This questionnaire will be concerned with print disabilities and alternate format production and accessibility in the post-secondary context. I understand that all information I provide will be kept strictly confidential and will not be used for any purposes other than this project.
3. I understand that I am free to ask any questions concerning the methodology of this study at any time. If for any reason I experience any discomfort or concern during my participation in this project, I understand I am free to discuss this with the project's manager, Frank Smith, National Coordinator of NEADS, (1-613-526-8008; e-mail: info@neads.ca).
4. I understand that if results of this study are published, any information I provide will remain strictly confidential, and that my privacy will be completely protected. I understand that any statements I make will never be linked to either myself or to my institution.
5. I understand that by responding to the questions I agree to have the data I provide included in the study on Access to Academic Materials for Print-Disabled Post-Secondary Students.
6. I acknowledge that I am free to participate or not, and that I have the option of terminating my participation in this study at any time.

Definitions

For the purposes of this survey, the following definitions are used:

1) "Print disabilities" are impairments that prevent people from reading standard print due to a visual, perceptual or physical disability. These disabilities include, but are not limited to: blindness, physical disabilities, visual impairment, dyslexia and other types of learning disabilities.

2) "Academic materials" include, but are not necessarily limited to: textbooks, workbooks, assignments and exams, online courses, handouts, online databases, library catalogues, print periodical indexes, web resources, course packs, and audio visual resources.

3) An "Alternate Format" is the transcription from ink-print to a format that is useable by a person with a disability. The person may use the product directly, such as a large print book or a Braille book, or access the material through adaptive technology such as a screen reader that provides synthesized speech for the material that is viewed on the screen. Formats include: large print, Braille, taped book in analogue format, taped book in digital format, PDF, DAISY book (electronic text and digital audio), digital text with synthesized voice, electronic text in many different versions (including ASCII, or Word, or Braille compatible), tactile graphic and other combinations. Audio-visual resources and multi-media productions - stand-alone items or included in Web sites or online courses - may also require alternate formats.

Student Questionnaire

Section A: Demographic Information

1. What is your year of birth?

Year _____

2. Gender

Female Male

3. Do you require or use academic materials in alternate formats to pursue your studies?

Yes No

If yes, please continue to question 4

If no, please return this survey

4. What type of post-secondary educational institution do you attend?

- University
- Community College
- CEGEP
- Technical/Vocational
- Other, please specify _____

5. What is the name and province/territory of the post-secondary educational institution that you attend?

Name of institution: _____

Province/Territory: _____

6. What province are you a permanent resident of?

Province/Territory: _____

7. What type of educational qualification are you currently pursuing?

- Certificate or diploma
- Bachelor's degree
- Master's degree
- Doctorate
- Post-doctorate
- Other _____

8. As of September 1st, 2004, what year of your program have you completed?

- Less than 1 year
- 1 year
- 2 years
- 3 years
- 4 years
- More than 4 years

9. What is your field of study? Please be as specific as possible (i.e. Anthropology, Computer Science, History, Hotel Management etc.).

10. Are you enrolled as a:

- Full-time student
- Part-time student
- Other, please specify _____

11. Did you choose this school on the basis of (check more than one if applicable):

- Accessibility (of services offered)
- Academic programs offered
- Location
- Reputation
- Scholarship or Grant
- Other, please specify _____

Section B: Disability Information

12. Please indicate your disability/impairment (or disabilities/impairments). Check all that apply.

- Blind/Visually impaired
- Learning disability
- Mobility impaired
- Neurological disability
- Deaf/Hard of hearing
- Mental health disability
- Medical disability
- Other, please specify _____

13. On a day-to-day basis, what kinds of aids or services do you use to accommodate your disability? The following is a list of some aids and services; check all that apply.

- Alternate formats (e.g. Braille, large print, audio tape)
 - Adaptive technology (e.g. computers, Braille, calculators)
 - Academic accommodations (e.g. note-takers, extended testing time, etc.)
 - Communication technology (e.g. Chat PC or VocaFlex)
 - Sign language interpreters
 - Attendant care services
 - Mobility aids (e.g. crutches, wheel chair, scooter)
 - Drugs and medical supplies
 - Guide dog/White cane
 - Assistive listening device
 - Specialized transportation systems
 - Tutor
 - No aids or services used
 - Other, please specify
-

14. a) Do you currently receive financial aid in the form of a scholarship, student loan/grant, or academic award?

- Yes No

If yes, please complete 14.b. and 14.c.

If no, please go to question 15

14. b) Identify the scholarship, student loan/grant, or academic award by name:

14. c) Does this funding support access to academic materials in an acceptable alternate format?

- Yes Partial No Do Not Know

If yes, or partial, what does the funding support?

Section C: Accessibility to Academic Materials

15. In which format(s) do you require academic materials? Check all that apply.

- E-text
- Braille
- Large print
- PDF image
- PDF text
- Audio – analogue
- Audio – digital
- MP3
- DAISY books
- Tactile graphics
- Descriptive video
- None
- Other, please specify

Comments:

16. What academic materials does your institution currently provide to you in alternate format(s)? Please check appropriate boxes, and/or comment.

- E-text
- Braille
- Large print
- PDF image
- PDF text
- Audio – analogue
- Audio – digital
- MP3
- DAISY books
- Tactile graphics
- Descriptive Video
- None
- Other, please specify

Comments:

17. What are your preferred alternate formats, in order of importance?

1. _____
2. _____
3. _____

Comments:

18. Which materials do you require in alternate formats? Check all that apply.

- Textbooks
- Workbooks
- Assignments
- Exams
- Supplemental readings
- Online courses
- Online databases
- Library catalogues
- Print periodical indexes
- Web resources
- Course-packs
- Audio visual resources
- None
- Other: Please provide an example _____

Comments:

19. Does your institution provide you with a complete alternate version of the book (or other material), including charts, graphs, sidebars etc.?

- Yes No

If not, please explain whether you experience a problem in reading the materials that are not equal to the print copy.

Comments:

20. a) Are your required class/assignment materials provided in alternate formats?

All Some None

20. b) Are your recommended class/assignment materials accessible in alternate formats?

All Some None

21. Do you receive the academic materials and services in alternate format that you require in a timely manner?

Always Sometimes Never

22. If not, what are the barriers preventing the timely delivery of alternate format academic materials? Check all that apply.

- Staffing
- Funding
- Equipment
- Timely provision of reading lists by instructors
- Not applicable

Comments:

23. Do your instructors respond to your alternate format accommodations needs in a timely manner?

- Always Sometimes Never Not applicable

Comments:

24. From where do you receive your academic materials in alternate formats? Check all that apply.

- Disability Service Centre
 Campus Library
 Public Library
 Canadian National Institute for the Blind (CNIB)
 Recordings for the Blind and Dyslexic (RFB&D)
 Computer lab
 External Agency
 Other, please specify

Comments:

25. What programs and services, if any, do you use outside of your post-secondary institution to access academic materials in alternate formats? Check all that apply.

- Canadian National Institute for the Blind
 Recordings for the Blind and Dyslexic

- National Library of Canada
- Public Library
- Provincial/Territorial/Regional Resource Centre
- Your own production
- Family support
- None
- Other, please specify

Comments:

26. Do you receive any training or information in the use of alternate format materials and technologies to access them?

- Yes No No, I didn't require training/information

Comments:

27. What technologies do you use to access academic materials that are in alternate formats? Check all that apply.

- Two-track and Four-track tape recorder
- Digital audio player (DAISY, CD/MP3 Player)
- Closed-Circuit Television (CCTV)
- Braille software
- Braille equipment
- Optical character recognition (OCR) software (OpenBook, Kurzweil)
- Text-to-speech software (WYNN, ReadPlease, TextHelp, TextAloud)

- Screen-reading software (JAWS, WindowEyes)
- Screen magnification software (ZoomText, Magic)
- Other, please specify

Comments:

28. Are your alternate format needs different for non-classroom/laboratory activities (such as registration, exams etc.)?

- Yes No

Comments:

29. Is the following information available to you in alternate formats that you can use at your institution? Check all that apply.

- Registration packages
- Course outlines
- Guides to campus services
- Course calendars
- Timetables
- Campus publications (E.G. Newsletters/Newspapers)
- Other, please specify

Comments:

30. Are you aware of your rights to accessing alternate formats relating to the exceptions for persons with perceptual disabilities under the Canadian Copyright Act?

Yes No

Comments:

31. Are you aware of your responsibilities when using copyrighted material in alternate formats (such as honouring the copyright of the work, not copying the work for others, and purchasing a copy of the print book)?

Yes No

Comments:

Section D: General Questions

32. How did you first learn about the availability of academic materials in alternate formats at your institution?

- Disability Service Provider
- Librarian
- Instructor
- Other Students
- Provincial/Territorial/Regional resource centre
- External Organization (i.e. Canadian National Institute for the Blind)
- Other, please specify

Comments:

33. How would you rate the quality of alternate format academic materials that you receive?

- Poor Average Good Excellent

Comments:

34. Provide up to three examples of the most and least successful services/experiences that you have encountered relating to accessing alternate format materials at your institution.

Most Successful Services/Experiences

1. _____
2. _____
3. _____

Least Successful Services/Experiences

1. _____
2. _____
3. _____

How could these services be improved?

- END -

THANK YOU!

The National Educational Association of Disabled Students (NEADS) thanks you for participating in this important national project.

Service Provider Questionnaire

September 30, 2004

The Project

The following survey is being distributed as part of the National Educational Association of Disabled Students' (NEADS) project Access to Academic Materials for Print-Disabled Post-Secondary Students: A Partnership of Users and Service Providers. This project is being conducted through a partnership of NEADS, the Council on Access to Information for Print-Disabled Canadians, the Learning Disabilities Association of Canada, the Canadian Association of Disability Service Providers in Post-Secondary Education, and the Quebec Association of Post-Secondary Disabled Students. This initiative has been funded in part by the Government of Canada's Social Development Partnerships Program.

The Goals

The main goals of this important national research are to gather current information on the accessibility, availability, timeliness, and quality of educational materials in alternate formats for post-secondary students with print disabilities. Further, the aim is to identify gaps related to the provision and delivery of academic materials, in a format of choice.

The end product of the research will be a detailed report addressing how services and materials may be better co-ordinated and used, identifying gaps in the process of supporting academic materials requirements for post-secondary students with print-disabilities. The report will also identify the next steps to be taken towards better services for students with print disabilities.

Who Should fill out the Survey?

You should fill out the service provider survey if you are involved in providing service and support to post-secondary students with disabilities. This includes librarians who provide services for students with print disabilities.

Survey Confidentiality

This is a confidential survey. When the results of this study are published, information you provide will remain strictly confidential, and your privacy will be completely protected. Statements that you make on the survey will never be linked to you or your post-secondary institution.

How Long will it Take?

The survey is comprised of 32 questions. Duration for completing this survey differs, but it should take no more than 20 minutes of your time.

How to Complete and Submit the Survey

Please complete the survey and return it to our office in the attached business reply envelope within one week of receiving it. You can also complete the survey online, by visiting www.neads.ca/atamsurvey2. This survey is available in both official languages and in alternate formats. If you require a French language questionnaire, or a diskette, large print, Braille, or audiotape version (in French or English) please contact us.

Questions?

If you have any questions regarding this survey or the project, you can email us at info@neads.ca, or call us at (613) 526-8008.

Thank You!

On behalf of the Access to Academic Materials for Print-Disabled Post-Secondary Students Project Steering Committee, we would like to thank you in advance for taking the time to complete this survey.

Sincerely,

Rachael Ross
NEADS' President

Liam Kilmurray
Project Consultant

Encl.

Informed Consent For The Questionnaire On Access To Academic Materials For Post-Secondary Students With Print Disabilities

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2. I understand that I am asked to respond to a questionnaire in a format and language (English or French) convenient to me. This questionnaire will be concerned with print disabilities and alternate format production and accessibility in the post-secondary context. I understand that all information I provide will be kept strictly confidential and will not be used for any purposes other than this project.
3. I understand that I am free to ask any questions concerning the methodology of this study at any time. If for any reason I experience any discomfort or concern during my participation in this project, I understand I am free to discuss this with the project's manager, Frank Smith, National Co-ordinator of NEADS, (1-613-526-8008; e-mail: info@neads.ca).
4. I understand that if results of this study are published, any information I provide will remain strictly confidential, and that my privacy will be completely protected. I understand that any statements I make will never be linked to either myself or to my institution.
5. I understand that by responding to the questions I agree to have the data I provide included in the study on Access to Academic Materials for Print-Disabled Post-Secondary Students.
6. I acknowledge that I am free to participate or not, and that I have the option of terminating my participation in this study at any time.

Definitions

For the purposes of this survey, the following definitions are used:

1) "Print disabilities" are impairments that prevent people from reading standard print due to a visual, perceptual or physical disability. These disabilities include, but are not limited to: blindness, physical disabilities, visual impairment, dyslexia and other types of learning disabilities.

2) "Academic materials" include, but are not necessarily limited to: textbooks, workbooks, assignments and exams, online courses, handouts, online databases, library catalogues, print periodical indexes, web resources, course packs, and audio visual resources.

3) An "Alternate Format" is the transcription from ink-print to a format that is useable by a person with a disability. The person may use the product directly, such as a large print book or a Braille book, or access the material through adaptive technology such as a screen reader that provides synthesised speech for the material that is viewed on the screen. Formats include: large print, Braille, taped book in analogue format, taped book in digital format, PDF, DAISY book (electronic text and digital audio), digital text with synthesised voice, electronic text in many different versions (including ASCII, or Word, or Braille compatible), tactile graphic and other combinations. Audio-visual resources and multi-media productions - stand-alone items or included in Web sites or online courses - may also require alternate formats.

Service Provider Questionnaire

Section A: Institutional Information

1. What type of institution do you work in?

- University
 - Community College
 - CEGEP
 - Technical/Vocational
 - Other, please specify _____
-

2. What is the name, and province/territory, of your institution?

Name of institution:

Province/Territory:

3. Estimate how many students who require disability-related accommodations attend your institution?

Number _____

Don't Know

4. How many students with print-based disabilities are registered with your office?

Number _____

Don't Know

5. Is your office the sole provider or producer of alternate format materials in your institution?

Yes No

If no, what is the other body/office that offers these services?

6. How many of the following people work in the disability services office or department? Check all boxes that apply and provide number(s) to the right.

- Full-Time staff _____
- Part-Time staff _____
- Volunteer staff _____
- Paid student employees _____
- Not applicable

7. How is the provision of alternate format materials funded?

- Internal sources External sources Both (int/ext)
- Not applicable

Comments:

8. Does your institution produce in-house alternate format academic materials?

- Yes No (If no, go to question 12)

If yes, which of the following do you produce?

- Textbooks
- Workbooks
- Assignments
- Exams
- Supplemental readings
- Online courses
- Online databases
- Library catalogues
- Print periodical indexes
- Descriptive Video
- Web resources
- Course-packs
- Audio visual resources
- Other, please specify

Comments:

9. Where are your in-house alternate format academic materials produced?

- Disability Service Centre
- Library
- Print-Shop/Audio-Visual Centre
- Other, please specify

Comments:

10. How would you rate the quality of in-house productions of alternate format academic materials?

- Poor Average Good Excellent

Comments:

11. How many of the following people are involved in this in-house production of alternate format academic materials? Check all boxes that apply and provide number(s) to the right.

- Full-Time staff _____
- Part-Time staff _____
- Volunteer staff _____
- Paid student employees _____

12. If your alternate format academic materials are produced elsewhere, or in conjunction, where do such materials and services come from?

- Provincial/Territorial/Regional Resource Centre
- Canadian National Institute for the Blind (CNIB)
- Recordings for the Blind and Dyslexic (RFB&D)
- Self-production (by the student)
- Other, please specify

Comments:

13. What percentage of your budget is allocated for the production of alternate format academic materials? (Provide an estimated amount, if preferable)

Percentage _____

Amount estimate: \$ _____

14. What type of training is required and/or given for disability service staff/volunteers who are involved in the production/delivery of alternate format materials?

Comments:

15. Who within your institution is responsible for the production and dissemination of alternate format academic materials and information to the students?

Disability Service Centre staff

Library staff

Other, please specify

Comments:

Section B: Materials

16. Which alternate formats do your students require most (please number the boxes 1-5 in order of requirement, e.g. with 1 being more requested and 5 being less requested)?

- E-text
- Braille
- Large print
- PDF image
- PDF text
- Audio – analogue
- Audio – digital
- MP3
- DAISY books
- Tactile graphics
- Descriptive Video
- None
- Other, please specify

Comments:

**17. Which alternate formats do you have most success in providing?
(please number the boxes 1-5 in order, e.g. with 1 being most
successful and 5 being less successful)?**

- E-text
- Braille
- Large print
- PDF image
- PDF text
- Audio – analogue
- Audio – digital
- MP3
- DAISY books
- Tactile graphics
- Descriptive Video

- None
- Other, please specify

Comments:

18. Are you aware of your rights to produce alternate formats relating to the exceptions for persons with perceptual disabilities under the Canadian Copyright Act?

- Yes
- No

Comments:

19. Are you aware of your responsibilities when producing copyrighted material in alternate formats (such as documentation of disabilities, producing a rights management statement, producing a copyright statement, purchasing a print copy of the text etc.)?

- Yes
- No

Comments:

20. Are you aware of your responsibilities for reporting the production of alternate formats and payments of royalties through your institution's Access Copyright Agreement?

- Yes
- No

Comments:

21. What changes, if any, would you like to see in the Canadian Copyright law that would facilitate the ability to provide academic materials in alternate formats to the students with print disabilities on campus?

Comments:

22. Does your institution produce a complete alternate version of the textbook (or other materials) in alternate formats (including charts, graphs, sidebars etc.)?

Yes No

Comments:

23. Roughly, how many hours per day do staff spend producing or co-ordinating alternate format academic materials and services?

Comments:

24. Roughly, how many hours per day do staff spend scanning and editing academic materials for alternate formats?

Comments:

25. Prior to production, do you verify whether a ‘title’ is already available (in house or elsewhere, e.g. AMICUS) in an alternate format?

Yes No Not Applicable

Comments:

Section C: General

26. Are there any barriers that prevent you from maximizing your services to students with print disabilities?

Yes No

If yes, what are they? Check all that apply.

- Staffing
- Registration policies
- Funding
- Equipment
- Time delays

- Copyright
- Other internal issues (please comment below)
- Other external issues (please comment below)
- Obtaining documentation of a print disability

Comments:

27. As a service provider or librarian, how would you characterize your level of knowledge regarding the production of alternate format academic materials?

- Needs Improvement Average Good
- Very Good Excellent

Comments:

28. As a service provider or librarian, how would you characterize your level of knowledge regarding the availability of alternate format academic materials?

- Needs Improvement Average Good
- Very Good Excellent

Comments:

29. a) Is there a process for the evaluation of production of alternate format materials at your institution?

Yes No Not Applicable

29. b) *If yes, who is responsible for the evaluation of alternate format production and delivery carried out at your institution?*

- Disability Service Office
- On campus Committee
- Student organization
- Students
- Other, please specify

Comments:

30. Is World Wide Web accessibility for students with print disabilities being addressed at your institution?

Yes No

If yes, which offices address World Wide Web accessibility?

- Disability Service Office
- Library Services
- Student Services
- Computer services
- Provincial/Territorial/Regional Resource Centre
- Other

Comments:

31. Is the following information available to students in alternate formats?

- Registration packages
- Course outlines
- Guides to campus services
- Course calendars
- Timetables
- Newsletters/Newspapers
- Other, please specify

Comments:

32. For students with print disabilities, which services do you feel that your institution provides most successfully (list up to three)? Which services do you provide least successfully (list up to three)?

Most Successful Services

1. _____
2. _____
3. _____

Least Successful Services

1. _____
2. _____
3. _____

How could these services be improved?

- End -

THANK YOU!

The National Educational Association of Disabled Students (NEADS) thanks you for participating in this important national project.

APPENDIX 3: CROSS-OVER SECTION

In the conclusion we referred to several 'cross-over' questions that contained identical, or very similar wording. The purpose of these questions was to compare the responses given by both the service providers and the students. A complete list of these questions is contained in table 41 below.

Topic	Question # in Service Prov	Question # in Student	Comments
Institution	1	4	Identical
Province	2	5	Identical
Training	14	26	Service Provider: training in Production of AFs, students: in use of AFs and technology.
Which AFs required	16	15	Identical
Provision of AFs	17	16	Service Provider: which AFs successfully provided, Students: currently provided by institution
Copyright: rights	18	30	Identical
Copyright: responsibilities	19	31	Identical
Complete AF versions	22	19	Identical
Barriers	26	22	Although structured differently, similar info
Info. In AF	31	29	Identical
Quality	10	33	Service Provider: quality of in-house production. Students: quality of materials received.
Rate best, worst experiences	32	34	Identical
Improvements	32	34	Identical

Table 41. Questions that solicit the same information from the surveys

APPENDIX 4: ANNOTATED BIBLIOGRAPHY

Introduction:

This is a brief sampling of the literature that exists relating to alternative format print material and accessibility to print material in general using a variety of sources and/or the World Wide Web.

The references which are presented here are a representative sample and by no means should be, considered an exhaustive list. They represent subject matter similar to the research completed in the Access to Academic Materials for Print Disabled Post-Secondary Students Project (ATAM) and are intended complement its scope.

The materials used here were gathered from members of the Steering Committee of the project and conducting Web searches on the Collections Canada site and the Education Resource Information Centre database (ERIC). In addition, general Web searches also revealed some other sources.

I would like to thank members of the Steering Committee for their input and I would like to extend special thanks to Heather Cross of MacOdrum Library at Carleton University for her assistance with the literature search and acquisition of documents.

In closing, I have to acknowledge the tremendously enlightening learning experience working on this project has been. I was left with lasting impressions of the experiences of people with print disabilities after my conversations with service providers during the project implementation phase, and at this stage, researching and reviewing materials in the preparation of this literature search. The process has altered my personal perceptions and left me a great deal more knowledgeable.

Laurie S. Alphonse - Project Consultant

Access to Academic Materials for Print Disabled Post-Secondary Students Project

March 2005

Holt, W. & Hole, C. (1994). *Adult Library Patrons with Disabilities: An Assessment of Information Access Needs* (Report No. EDO IR 055 222). Washington D.C.: Office of Educational Research and Improvement (ERIC Document Reproduction Service No. ED374819)

This study addresses a holistic approach to accessibility for people with print disabilities. The article, a needs assessment conducted to improve accessibility for people with disabilities overall at the Phoenix Public Library, details suggestions for improvement in a number of areas such as training for staff and patrons on adaptive equipment, access to materials in alternate format and structural changes that would accommodate the needs of patrons with disabilities.

Furthermore the research also attempts to address the individualized nature of support to people with disabilities who need personalized one-on-one assistance in the provision of accommodations.

BC College and Institute Library Services. (2004). *Accessibility of British Columbia's Post-Secondary Library Websites, Catalogues and Databases: A Preliminary Report*. Vancouver, BC: Blaeser, S., Creedy, M., & Epp, M.

The content of this report is a culmination of two studies. One surveys library staff to determine their own perceptions about the accessibility of Websites and online database resources currently in use. This study addresses Web accessibility and accessibility of online catalogues and databases in 17 post-secondary institutions. Within the hands-on component of analysis the study discusses accessibility as it relates to visual impairments and uses JAWS software as a tool for specific analysis.

The hands-on portion of the study had a researcher assessing these resources against an accessibility template developed by BC College and Institute Library Services (CILS) using combined criteria of RNIB and WAI guidelines.

**Microsoft Corporation. (2004). *Accessible Technology: A Guide for Educators*.
<http://www.microsoft.com/Education/EdGuideAccessible.aspx?pf=true>**

This guide provides elementary analysis of how adaptive equipment products and mainstream products may assist students with disabilities. It is not specific to the post-secondary population but nevertheless recognizes the role that these computer products play in achieving opportunities for success. In addition, the existence of a document of this type suggests that adaptive equipment technology is gaining mainstream attention, thus recognizing people with disabilities as a viable market group.

The document discusses existing Windows and Office Suite options that are specifically intended to enhance accessibility, while also suggesting other software and hardware options that may be suitable for use with students with certain disabilities.

Griebel, R. (2000), *Partnering Services between Public Libraries and Library Services For the Blind: A Canadian Experience*(Report No. EDO IR 058 020). Washington D.C.: Office of Educational Research and Improvement (ERIC Document Reproduction Service No. ED450754)

This presentation highlights the possibilities that exist to ensure that individuals who are visually impaired may access information in integrated fashion using the resources of the public library in their community.

This is achieved on a local scale in Alberta where the Canadian National Institute for the Blind and VISUNET Canada partnered to make it possible for people who are visually impaired to access the electronic format services of VISUNET Canada for online catalogues and print resources in alternative format.

Treviranus, J. & Coombs, N.(2000): *Bridging the Digital Divide in Higher Education* (Report No. EDO IR 020 620). Washington D.C.: Office of Educational Research and Improvement (ERIC Document Reproduction Service No. ED452812)

This presentation highlights the accessibility challenges that exist with technological advances of course design and delivery. In addition to highlighting areas of concern it suggests strategies for dealing with those challenges by profiling initiatives undertaken.

In particular, it discusses applicable US law, hardware and software issues in accessibility and provides online resources.

Wimberley, L., Reed, N. & Morris, M. (2004) *Post-secondary students with Learning Disabilities: Barriers to Accessing Education-Based Information Technology. Information Technology and Disabilities, 10, 1.* Retrieved February 14, 2005 from <http://www.rit.edu/~easi/itd.htm>

The discussion in this study identifies barriers for students with learning disabilities accessing information online. The study asked students with learning disabilities to perform tasks online and provided each participant with equal amounts of training and training information online. Difficulties experienced by many in accessing the information and completing the requested tasks are highlighted.

Government of Canada Industry Canada (2003) *A Manager's Guide To Multiple Formats.* <http://www.collectionscanada.ca/accessinfo/s36-202.001-e.html>

This is a resource guide and toolkit aimed at assisting managers in the government and private sector on the authoring and production of materials in alternative formats.

The guide is an introduction to the concept of alternative format for those individuals not exposed to the concept previously. It discusses all forms of alternative format in the broadest spectrum, including plain language and sign writing.

Slem, C., & Kane S. (2001). *Utility of Course Web Resources for Students with Learning Disabilities* (Report No. EDO EC 308 931). Washington D.C.: Office of Educational Research and Improvement (ERIC Document Reproduction Service No. ED464430)

The paper discusses the use of World Wide Web resources to assist students with learning disabilities in successful course completion. The paper details how students who were able to access course materials found additional strategies for dealing with their differing learning styles.

Burgstahler S., Duclos R., & Turcotte, M. (2000). *Preliminary Findings: Faculty, Teaching Assistants and Students' Perceptions Regarding Accommodating Students with Disabilities in Post-secondary Environments* (Report No. EDO HE 034 275). Washington D.C.: Office of Educational Research and Improvement (ERIC Document Reproduction Service No. ED456718)

This study is an overview of attitudes towards accommodations within a US post-secondary environment. Similarities can be drawn from this example for many of the concerns about access to equipment, structural changes and overall prevailing attitudes about disability and accommodations to the Canadian environment.

The study was conducted using qualitative focus groups and the resulting data provides a rich picture of accommodation attitudes from all three perspectives: students, faculty, and teaching assistants.

French, D. (2002) *E-Accessibility: United States and International* (Report No. EDO IR 021 736). Washington D.C.: Office of Educational Research and Improvement (ERIC Document Reproduction Service No. ED477008)

This article details the difficulties of remaining current with the changing technologies that govern the World Wide Web and the challenges that result in trying to provide educational accommodations in a standardized fashion.

Thompson, T. (2004) *Survey on Access Technology in Higher Education.*

<http://staff.washington.edu/tft/athen/>

This study addresses the adaptive equipment delivery perspective from the point of view of technologists supporting students with disabilities. In its description of services and delivery models it provides only an administrative and a structural delivery perspective. However, it does provide building blocks for expansion and the continued growth of this relatively new field.

Fichten, C. S. (2003). *Accessible Computer Technologies for Students With Disabilities in Canadian Higher Education. Canadian Journal of Learning and Technology.* 29,2 25-33. http://www.cjlt.ca/content/vol29.2/cjlt29-2_art-1.html

This article discusses differences of access to adaptive equipment technologies between colleges and universities, by language and institution type.

The research addresses issues such as access to adaptive equipment, different aspects of service delivery and the attitudes and perceptions to services that emerged from the research. Regional and cultural differences are expressed about access to and the use of adaptive equipment in the post-secondary sphere.

Burgstahler, S. (2002). *Distance Learning: The Library's Role In Ensuring Access To Everyone. Library Hi Tech,* 20, 4, 420-432.

This article speaks to the role of libraries in the delivery of distance education courses and in turn the role of libraries in ensuring materials are delivered in accessible formats. Furthermore, it is recognized that, generally, the capacity of libraries to provide service is expanding beyond physical buildings, hours of operation and even physical books. Therefore, accessibility of libraries must move beyond physical structural parameters in the provision of services in accessible formats.

Specifically, discussion centres around the partnerships libraries may undertake to ensure courses in distance education are provided using universal design principles to ensure electronic accessibility and compatibility with adaptive software and hardware. In addition, the article encourages active partnerships between instructors, students with disabilities and library staff all aimed at assisting students with disabilities to reach their full potential.

Griebel, R. (2003). If Helen Keller Lived South of the 49th: Canadian Library Services for People with Disabilities. *Feliciter*, 3,155-57.

Griebel discusses how the differing legal and cultural perspectives of Canada and the US have impacted services to people with disabilities within library sciences. In the article she contrasts the differences in the legal approach when dealing with the assurance of equity and draws from the different perspectives a need for an overall international approach.

Spindler T. (2002). The Accessibility of Web Pages for Midsized College and University Libraries. *Reference & User Services Quarterly*, 42, 2,149-54.

The article details a quantitative study of 190 midsize college library Websites in the United States. The study tested for Website accessibility using Bobby v.3.2. The program is designed to test for accessibility using the guidelines of the Website Accessibility Initiative (WAI).

The study found that there was need for significant improvement in Website accessibility at many of the colleges within the study and suggests areas for further research.

Harrison, L. (2002). Access To Online Learning: The Role Of The Courseware Authoring Tool Developer. *Library Hi Tech*, 20, 4, 433-40.

This piece of writing suggests strategies for including accessibility components in Web-based server course management systems. It promotes the development of courseware that is compatible with existing adaptive equipment software and highlights examples

of current compatibility errors as examples. The article goes further, pointing out that improvements to the accessibility of courseware would, in general, improve overall flexibility of those programs within a wider variety of browser platforms, thus, increasing overall access, not only access to students with disabilities using these products.

Genius S. K. (2004). Website Usability Testing: A Critical Tools for Libraries. *Feliciter*, 4,161-64

This generalized view of evaluation of library Websites encourages a user-friendly approach to whether or not Websites are effective, efficient and satisfactory. The article does not specifically discuss issues of print accessibility but still provides a base point for discussion.

Byerley S., & Chambers M. (2003). Accessibility of Web-based Library Databases: The Vendors' Perspective. *Library Hi Tech*, 21, 3 347-57.

This article details the findings of a qualitative study that had library database vendors rating their own products for accessibility on the basis of compliance with section 508 of the Americans with Disabilities Act regulations.

The sample size and scope of the survey were limited, with only 11 companies participating. The research scope was limited by rating scales of 0 to 5, and a majority of closed-ended questions in those other parts of the survey not requesting ratings. The writers point out that the study tells more about what still needs to be accomplished than an absolute measurement of the accessibility of these database tools.

Schmetzke A. (2002). Accessibility of Web-based Information Resources for People with Disabilities. *Library Hi Tech*, Volume 20, Number 2, 135-36.

In this two-page editorial the writer attempts to provide an overview of the challenges surrounding ensuring accessibility within electronic formats and the challenges faced with an ever-changing technology frontier. The author recognizes disability as a social

construct and considers libraries a critical part of ensuring equality and inclusion for those with print disabilities.

Chu, H. (2003) Electronic Books: Viewpoints from Users and Potential Users. *Library Hi Tech*, 21, 3, 340-346.

The piece highlights a short survey given to a small sampling of individuals to determine their feelings about and usage of E-books. The study found that most do not consider E-books a viable replacement for the paper hardcopy books of today, despite the large investment and fanfare that heralded the beginning of the E-book revolution at the turn of the new millennium. Economics, the article states, is a large factor in the reasons why the E-book revolution was a revolution that never really was at all. Despite the economic factors the article's author believes that the success or failure of E-books depends on the products themselves. To try and determine reasons why people use or do not use E-books, as the case may be, a small study was conducted.

The study found that many cited unavailability of titles and difficulty browsing as reasons for why they did not choose to use an E-book format. However, for those who used E-book format titles successfully they opted to use that format repeatedly as long as the title was available in the electronic format.

Lewis, V., & Klauber, J. (2002). [Image] [Image] [Image] [Link] [Link] [Link]: Inaccessible Web Design from the Perspective of a Blind Librarian. *Library Hi Tech* 20, 2, 137-40.

The material in this article is taken from the personal experiences of one of the authors. She provides through examples she herself has experienced, a critical eye for improvement in the field of Web design. It is clear from the article that development of Web accessibility guidelines, is moot if Websites are still being designed without implementation of those guidelines. In addition, it is also clear that there needs to be increased education around accessibility, even with the proclamation of the Americans with Disabilities Act and development of the Web Accessibility Initiative guidelines. The examples in this article clearly dictate a disconnect of policy and practice. However, the

author is optimistic that although the system requires improvement, improvements are ongoing.

Horwath, J. (2002) Evaluating Opportunities for Expanded Information Access: A Study of the Accessibility of Four Online Databases. *Library Hi Tech*, 20, 2,199-206.

This study evaluated four Web-based proprietary databases for accessibility to people who were blind and visually impaired. The study tested the databases for easy navigation and compatibility with adaptive equipment software.

The databases included in this study are EBSCOhost, Master File Elite, Electric Library Plus, Encyclopaedia Britannica Online and the Oxford English Dictionary Online. The study examined whether links were appropriately placed so that they could be read by screen readers, whether the site used frames and combo boxes and whether there was enough text instruction to provide direction in navigation.

Oravec, J. (2002) Virtual Accessibility: Empowering Students to Advocate for Accessibility and Support Universal Design. *Library Hi Tech*, 20

Oravec argues that students must be active participants in the universal design and organizational structural design components of the tools they use daily to reach their academic potential. In this article, the social constructs of disability are challenged using technology. Technology, according to the author can be used as a tool to engage people with disabilities with expanding aspects of the world around them. This article suggests strategies for educators to involve students in the process of looking critically at the world and problem-solving.

Coonin, B. (2002). Establishing Accessibility for E-Journals: A Suggested Approach. *Library Hi Tech*, 20 2, 207-20.

This article advocates for more education of E-journal publishers about accessibility and the need for its implementation at the development phase and not as an added extra feature. Furthermore, the article details the study of E-journal accessibility. Generally, the

study found that while many E-journals had built within them accessibility components all had flaws of varying degrees that makes them inaccessible. Furthermore, the article points out that there needs to be clarification of responsibility for accessibility and publishers need to work with adaptive equipment and software developers to design a system that's universally designed to work in all situations.

Riley , C. A.(2002). Libraries, Aggregator Databases, Screen Readers and Clients with Disabilities *Library Hi Tech, 20, 2,179-87.*

This article echoes the sentiments of the preceding article. It highlights the inaccessibility of online databases and promotes the concept of co-operation in the development and design stage between publishers, Web developer counterparts and developers of adaptive equipment and/or software. Adaptive software and hardware components are rated with respect to how they navigate three commonly used databases.

Bowman, V. (2002). Reading Between the Lines: An Evaluation of WindowEyes Screen Reader as a Reference Tool for Teaching and Learning. *Library Hi Tech, 20 2,162-68.*

This is an evaluation of the WindowEyes package in it's use to teach blind and visually impaired students to do research using online databases, in much the same way as their peers who are non-disabled. The author finds that teaching the same skills are possible, with the assistance from library staff.

The article goes on to suggest that screen readers are an essential part of accessibility for library patrons with disabilities. Furthermore, the author provides tips for consideration when purchasing screen readers.

Amtmann, D., Johnson, K., & Cook, D. (2002). Making Web-based Tables Accessible For Users of Screen Readers. *Library Hi Tech, 20, 2, 221-31.*

This paper highlights the problems experienced by people with print disabilities in navigating Web-based tables with screen reader software. In addition to providing

specific examples it also recommends additional training for webmasters about accessibility. Furthermore, it provides concrete examples of how accessibility can be implemented to make it easier for people with print disabilities to surf the Web.

National Library of Canada. (2000) *Fulfilling the Promise: Report of the Task Force on Access to Information for Print-Disabled Canadians.*

<http://www.collectionscanada.ca/accessinfo/s36-200-e.html>

The report is a comprehensive review of the issues facing individuals with print disabilities in their access of print material in its traditional form in Canada. It discusses of the current standards and directions for the future. The report recommends a number of measures to ensure access to print materials by people with disabilities, and promotes access to print materials in alternative formats through systemic changes and the promotion of partnerships.

Irwin, M., & Gerke, J.D. Web Based Information and Prospective Students with Disabilities: A study of Liberal Arts Colleges. *Educause Quarterly*, 4, 2004. 51-59 Retrieved on April 1, 2005 from

<http://www.educause.edu/ir/library/pdf/eqm0446.pdf>

This study involved Website accessibility testing at 51 liberal arts colleges in United States. Homepages for were tested for accessibility and it was determined most would need revisions. Furthermore, the study discusses the impact of the requirement for those revisions, pointing out that the requirement would represent significant barriers for prospective students with print disabilities. The study recommends that colleges use a six step plan for ensuring accessibility. Common problems are highlighted in Website design and the need for further public education surrounding accessible Web-site design is stressed.

A variety of methods were used to determine accessibility. The Websites were tested using Bobby Web accessibility software and aspects of the Websites were tested for use and compatibility with adaptive equipment software such as Zoom Text and JAWS.