

ARC-BC (Accessible Resource Centre – British Columbia)

POLICY

Background

Many students with disabilities face barriers to participation and learning due to their difficulties with printed curriculum materials. Students who have problems decoding or comprehending the meaning of written text, seeing the words or images on a page, holding a book and turning its pages, and so on, often struggle with standard classroom resources. These students benefit from more accessible digital and alternate text formats.

Although educators recognize the benefits of these materials for their students, current methods of providing them are inconsistent and there is a great deal of duplication of effort in resource production. Individual educators around British Columbia have varying access to the technologies required to produce alternate format materials and, even if they do have those technologies, lack the technical expertise or time required to produce the materials. For those educators who do produce alternate format materials, they often do so in isolation and based on specific student and classroom needs. It is not uncommon for the same Grade 6 Science textbook to be scanned many times in the same school district and certainly around the province.

With more and more classrooms moving towards adopting the Universal Design for Learning (UDL) philosophy and strategies and the increasing popularity of software that can produce and read e-text, some school districts have begun their own coordination of alternate format materials in an attempt to reduce duplication and make these materials available to their own educators. This coordination has generally depended on submissions of alternate format materials from the field rather than production of materials in a centralized manner. This can create quality and copyright issues which can also be challenging to address.

ARC-BC, a BC Ministry of Education joint initiative between SET-BC (Special Education Technology – BC) and PRCVI (Provincial Centre for the Visually Impaired) was developed to overcome many of the challenges facing BC educators in providing students with perceptual disabilities with the high quality alternate format materials needed to complete their educational programs.

Mandate

ARC-BC (Accessible Resource Centre – British Columbia) collects, produces and distributes high quality digital and alternate format materials to school districts for use by students with perceptual disabilities. These activities support equitable and timely access to K-12 curricular resources for students who cannot access standard print materials due to a visual impairment, physical disability or comprehension disability.

Approach

The collection of alternate format materials will be available to eligible students and educators through a web-based repository or database. ARC-BC is both a service (providing school districts with high-quality polished materials that meet specific format standards) and a community (providing students and educators with an area to request specific resources, share new alternate formats, and improve the quality of existing materials). The provincial ARC-BC team, working in partnership with the Ministry of Education, individual school districts, publishers and other alternate format producers, coordinates the collection, production, storage, and distribution of the alternate format materials.

Eligibility for Access

Access to materials contained in ARC-BC is limited to students with perceptual disabilities and those educators supporting their access to the K-12 curriculum. Each school district determines their own process for identifying students as having a perceptual disability that necessitates the use of alternate format materials. Individuals who register for ARC-BC are granted access to the repository only after an authorized school district representative has ensured his or her eligibility and approved the registration request.

Copyright Compliance

ARC-BC works with school districts to ensure compliance to the Canadian Copyright Law Section 32(1). This legislation states that “it is not an infringement of copyright for a person, at the request of a person with perceptual disability, or for a non-profit organization acting for his or her benefit, to make a copy or sound recording of a literary, musical, artistic or dramatic work, other than cinematographic work, in a format specifically designed for persons with a perceptual disability.” This legislation does not authorize the making of large print books or the making of alternate formats when they are commercially available.

As such, only alternate format materials which observe this copyright legislation are available through ARC-BC. To further assist school districts and their users in complying with copyright, a comprehensive “Copyright Protection Strategy” outlining educational activities, documentation, and the user-selection procedure is in place. Additionally, the repository itself has a number of built-in security features designed to limit access and provide copyright alerts at several points (see section titled “Copyright Protection Strategy”).

All alternate format materials available through ARC-BC are electronically stamped with a statement that notifies the user that the title has been produced in accordance with the exception for individuals with perceptual disabilities and also of their obligation to adhere to the copyright legislation as it pertains to copying and/or distributing the work. Alternate format materials based on copyrighted print materials (e.g. textbooks, novels) are produced observing the moral rights of the copyright owner (maintenance of paternity, integrity, and association) with extensive records kept on each title including ISBN/ISSN number, title, author, publisher, date created and so on.

ARC-BC is committed to producing and providing alternate format materials for students with perceptual disabilities in a manner which complies with the Canadian Copyright Act. Production and distribution procedures are continually reviewed to ensure all measures possible are taken to protect the rights of copyright holders.

Alternate Format Production

ARC-BC obtains alternate format materials from a number of sources. When possible, accessible .pdf versions of textbooks and novels are obtained directly from the publishers. These files can then be converted to other alternate format file types as needed.

Alternate format materials are also obtained from school districts through the Community feature of the repository. BC educators who have created alternate formats from standard print materials are encouraged to submit these resources for inclusion in the Community collection. Upon submission, the ARC-BC production staff reviews the material, ensuring each file is correctly named and catalogued prior to being available to the users.

In addition to obtaining alternate format materials from outside sources, the ARC-BC production staff also produces materials onsite from original print books. From scanning, master .tiff files are created and then converted to various formats following a set of standards for each file type.

Regardless of the source, each file in ARC-BC is described using metadata that follows IEEE Learning Object Metadata standards. Three groups of metadata elements are used for describing a resource (e.g., Science Probe 9): the title/metadata group elements describe the bibliographic information about a resource; the section group elements describe any arbitrary “section” (e.g., Chapter 1) of the resource, sections are given a 3 digit number that uniquely identifies them within the book; the object group elements describe a particular file format of the resource. When Community members submit a resource, the minimum bibliographic information about a resource: the title of a resource (Name of Book), 10-digit or 13-digit ISBN number (ISBN), contributor information (Author and Editor), as well as the section information (Chapter Number and Chapter Title) is attached to allow the resource to be searched. As the individual files are edited and improved, the metadata is completed and the final alternate format is moved into the Main Library area of the repository.

ARC-BC continually seeks to expand its collection of alternate format materials, focusing on those standard print materials that are used by students completing the K-12 curriculum in British Columbia. Newly recommended BC Ministry of Education resources and most frequently requested titles are given priority for both outside acquisition and onsite production.

Alternate Format Standards

Each alternate format type offered through ARC-BC has its own set of standards – some are established in the larger community (e.g. Braille) while others have been developed in-house or recommended from those in the field using specific technologies (e.g. Kurzweil 3000 or .kes files).

Braille materials are available through ARC-BC and follow PRCVI's already established production of this file type. Creation of Braille materials follows the standards established by the Braille Authority of North America (BANA) for literary, textbook, Nemeth (mathematics code), music and foreign languages materials. <http://www.brailleauthority.org/>.

Alternate format materials production of etext follows the “Guidelines for the Production of Etext” developed by the Canadian Braille Authority. These guidelines are available at <http://www.canadianbrailleauthority.ca/en/publications.php>.

Kurzweil 3000 (<http://www.kurzweiledu.com>) (.kes) materials are created from searchable and/or accessible .pdf documents and are classified as one of three levels – Level 1 (initial) are those .kes files which have not been edited in any way, Level 2 (transitional) are those .kes files which are undergoing editing and OCR correction, and Level 3 (final) are those .kes files which have had all OCR and reading zone corrections completed.

Partnerships

ARC-BC seeks to create partnerships with three main groups – BC school districts, other alternate format producers, and publishers. BC school districts are invited to join the ARC-BC community through an application process that identifies an ARC-BC District Contact, the technical readiness of the district to access the repository, and planned training initiatives. BC school districts are also required to sign an agreement describing appropriate use of alternate format materials. The partnership with school districts also supports active contributions of district-generated alternate formats to the ARC-BC collection.

Partnerships with other alternate format producers are also important and these organizations are invited to join the ARC-BC community through an application process that identifies an ARC-BC Organizational Contact and their end user profile. Through these partnerships, ARC-BC joins the larger, national group of alternate format producers.

Finally, ARC-BC seeks partnerships with publishers of educational materials as a way of providing school districts with publisher-produced accessible .pdf formats, alternate formats

derived from these files, or both. When publishers join the ARC-BC community, an agreement between ARC-BC and the publisher is reached as to which accessible .pdfs will be provided, how they will be provided, and if they can be made directly available through the repository or act only as the master file for alternate format production.

ARC-BC Provincial Team

The ARC-BC Provincial Team manages the ARC-BC project, ensuring that the repository is accessible, up-to-date, and functioning effectively. The team also administers the project, establishing process and procedures and coordinating the various informational and training activities associated with the ARC-BC community. The team membership varies according to need, but, in general, consists of alternate format production assistants, a systems librarian, multimedia and IT support, and project leaders.

ARC-BC Contact Information

General inquiries can be directed to the ARC-BC Provincial team by:

- email arc@setbc.org
- phone 604.261.9450 ext 314
- FAX 604.261.2256
- mail 105-1750 West 75th Ave, Vancouver, BC V6P 6G2

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Appendix

ARC-BC Copyright Protection Strategy

ARC-BC is committed to helping school districts understand and uphold the copyright legislation concerning alternate format materials. To meet that commitment, a Copyright Protection Strategy is in place which includes the following:

1. Education and Training

- a. All school districts who apply to be part of the ARC-BC Community will be required to outline a plan for training staff on the Canadian Copyright Act 32(1) with an emphasis on appropriate use of alternate format materials and the students who qualify to use these materials. A collection of resources including web-based and downloadable presentations and print materials as well as workshop packages are available to those individuals in the district responsible for conducting district and school level training.
- b. The ARC-BC team, in consultation with individual school districts, support school district training initiatives through face-to-face presentations and regularly scheduled online training meetings. This, together with the web-based resources, ensures a consistent message regarding copyright is delivered to ARC-BC administrators and users.

2. Controlled Access to Alternate Format Materials

- a. The alternate format materials available through ARC-BC are not open to the public. School districts who have applied and been accepted to the ARC-BC Community are required to identify an “ARC-BC District Contact”. This individual in the district, usually a Superintendent or Director of Special Education, has the responsibility of approving or denying user registration requests from his or her staff. As the ARC-BC District Contact would know the staff and students of the district, this ensures that access is limited to only those students with perceptual disabilities or those educators working directly with those students. The Contact also has the responsibility of monitoring the district user profile to ensure it is current and the user list updated and accurate.
- b. Other alternate format producing organizations must also apply to be part of the ARC-BC Community. To join the community, these organizations must be serving individuals with disabilities and understand and follow processes that respect the copyright legislation.

3. Repository Security Measures

- a. A number of robust security features are built into the ARC-BC repository to control, as much as possible, the searching and downloading of alternate format materials. The first is the need for a unique user log in and password. When the ARC-BC District Contact approves a user for registration, he or she receive an email with a unique username and password as well as instructions for safeguarding this access information. All subsequent activity in the repository is tied to that username.
- b. Logging into the ARC-BC repository is necessary to browse and download the alternate format materials. Once a file has been selected for download, it is sent to a “cart” where clicking the “Checkout” button initiates a pop up copyright statement confirming that the materials are being downloaded for an individual with perceptual disabilities. The user must agree to this before proceeding with download. Materials are available for download in the user’s cart for a period of 7 days only. After that time, they disappear from the cart. The URL for download is dynamically generated and connected only to that username so copying and pasting it to another’s browser would not produce access to that file.
- c. All user activities are monitored and reports on usage are generated, at minimum, two times per year. This information allows the ARC-BC team to identify obvious areas of concern (e.g. inappropriate numbers of downloads) and terminate access to those school districts or individual users who are abusing their access privileges. The ARC-BC District Contact also receives a minimum of two district updates to help manage and update their district users.

4. Electronic Copyright Stamp

- a. Each and every alternate format file that has been created from a copyrighted work in the ARC-BC repository is “stamped” electronically with the copyright statement: This material has been created under the Canadian Copyright Act (CCA) Section 32(1) for individuals with perceptual disabilities. Further distribution or reproduction of this material must comply with this act. All rights reserved. For more information see www.arc-bc.org.
- b. In addition to this visual stamp on the front page of every file, copyright information is also placed in each file’s properties when catalogued.

Definitions

In this policy,

- a) “**accessible .pdf**” means a specific Portable Document Format file type that includes tags (XML), text equivalents, captions, and/or audio descriptions so screen and text readers like JAWS and Kurzweil 1000/3000 can access and read the text for individuals with disabilities. Accessible .pdf documents have three views (the physical view, the tags view, and the content view) which must be consistent with one another for the .pdf document to be accessible.
- b) “**alternate format**” means print material that has undergone a transcription process resulting in a version of the print material (audio, large print, electronic text format, etc.) suitable for use by all persons including those with perceptual disabilities. (CLA)
- c) “**assistive technology**” means any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities. (IDEA)
- d) “**commercially available**” means, in relation to a work or other subject matter, is available on the Canadian market within a reasonable time and for a reasonable price and may be located with reasonable effort. (CCA)
- e) “**curriculum**” means the knowledge and skills students are expected to attain at each grade and in each subject as described by the school districts and Ministry of Education in British Columbia (BC MoE)
- f) “**perceptual disability**” means a disability that prevents or inhibits a person from reading or hearing a literary, musical, dramatic or artistic work in its original format, and includes such a disability resulting from
 - a. severe or total impairment of sight or hearing or the ability to focus or move one’s eyes
 - b. the inability to hold or manipulate a book, or
 - c. an impairment relating to comprehension (CCA)
- g) “**student**” means an individual who is registered with a public, francophone, distance education, or independent K – 12 school in British Columbia (BC MoE)
- h) “**Universal Design for Learning**” is an approach that addresses and redresses the primary barrier to making expert learners of all students. It helps meet the challenge of diversity by suggesting flexible instructional materials, techniques, and strategies that empower educators to meet the varying needs of students in their classroom. (CAST)