

# Statistics Students with Reading Disabilities Need Tools

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Statistics is a profession well suited to persons with disabilities, as it offers few physical barriers to participation. However, there is a need to ensure reading-impaired college students have access to the tools they need.

In addition to the blind, persons with dyslexia and similar cognitive disabilities need assistance. Options range from Braille to audio text readers, depending on the nature of the disability. Only about 20% of persons with a reading disability use Braille.

Scientific textbooks are more readily available in an accessible form at the high-school level, as there are legal requirements for publishers to provide files in a standard format that can be converted to Braille. Since texts in an accessible form are much more limited at the college level and a textbook in Braille can cost thousands of dollars, it is the college's responsibility—usually their disability office—to ensure students receive required materials in a timely fashion.

College staff can order materials from agencies such as Recording for the Blind and Dyslexic or scan student textbooks themselves to be converted to digital form and read by an audio text reader. They also may request electronic files that can be formatted for the students. Publishers usually provide PDF files to colleges for free. Sometimes, especially for older texts, they provide print versions that can be scanned and converted to digital form. The AccessText network assists in obtaining these materials from publishers and will soon allow colleges to share files they have created for reading-disabled students.

Reworking PDF files so they can be converted while ensuring they convey the materials in the book correctly can be a difficult task, but there is software available to help. InftyReader, available from InftyProject, provides audio solutions and can

## Resources

AccessText Network, [www.accesstext.org](http://www.accesstext.org)

DAISY Consortium, [www.daisy.org](http://www.daisy.org)

Recording for the Blind & Dyslexic, [www.rfbd.org](http://www.rfbd.org)

ReadHowYouWant, [www.readhowyouwant.com](http://www.readhowyouwant.com)

Bookshare, [www.bookshare.org](http://www.bookshare.org)

InftyProject, [www.inftyproject.org](http://www.inftyproject.org)

MathML, [www.w3.org/Math](http://www.w3.org/Math)

liblouisxml (Braille converter), [www.jjb-software.com/liblouisxml-guide.html](http://www.jjb-software.com/liblouisxml-guide.html)

National Instructional Materials Accessibility Standard, <http://nimas.cast.org>

American Physics Society, <http://aps.org/publications/apsnews/200812/blind.cfm>

U.S. Department of Health and Human Services, [www.hhs.gov/web/508](http://www.hhs.gov/web/508) and [www.hhs.gov/web/policies/accomodation/index.html](http://www.hhs.gov/web/policies/accomodation/index.html)

eTextbooks (including statistics), [www.coursesmart.com/search](http://www.coursesmart.com/search)

export text as XHTML, which can then be converted to Braille using the free liblouisxml application. MathML, a specification for describing mathematics that can be embedded in XHTML files, deals with both the presentation and meaning of formula components.

Also, the emergence of e-books in the EPUB format offers an important option, although EPUB readers that offer full accessibility have been slow to reach the market. Currently, the EPUB format does not support mathematics, but it does permit SVG graphics, which can be made accessible.

Access to journals and scientific materials other than textbooks also is needed. The American Physics Society is developing ways to improve journals' accessibility to persons with a reading disability. ■