



For More Information

EAST

<http://research.usm.maine.edu/east/>

CAST <http://www.cast.org>

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Digital Text

What the Research Says

Traditional print materials can create access barriers for many learners, resulting in the need to provide accommodations or modifications for students with different cognitive, sensory, and physical abilities (Dyck & Pemberton, 2002). When materials are available in accessible digital format, however, the content is inherently flexible for all students, regardless of individual needs and preferences. For example, students can customize the size, font, color contrast, and style of text in digital format. Digital text can also be read aloud by text-to-speech software programs, which have been shown to improve comprehension of students with reading disabilities (Leong, 1992; Lundberg & Olofsson, 1993; Califee, Chambliss, & Beretz, 1991; Wise, Ring, & Olsen, 2000). Students who are blind or have low vision can access digital text via screen magnification or screen reading software programs, as well as refreshable Braille devices. English Language Learners can use translation software to convert digital text to their native language. Furthermore, content in digital format is compatible with 21st century devices that are popular among students, such as handheld computers and MP3 players.

In Practice

Sources of digital text include:

- Textbook publishers
 - National Instructional Materials Accessibility Standard (NIMAS), effective December of 2006, will provide a technical specification for publishers.
 - More information available at <http://nimas.cast.org/>
- Online libraries for mathematics and science, such as
 - National Science Digital Library <http://www.nsdlib.org>
 - BiosciEdNet <http://www.biosciencednet.org>
 - Digital Library for Earth System Education <http://www.dlese.org>
 - EcoEdNet <http://www.ecoed.net>
 - MathWorld <http://mathworld.wolfram.com>
- Scanning with Optical Character Recognition (OCR) software
 - OCR software converts a scanned page to digital text
 - Higher quality OCR software creates higher quality digital text