



E-Books for Education? Not so Fast...

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Much of the coverage of e-book products in recent months—especially Kindle Fire and products based on Apple’s new iBook platform—has focused on the potential of these products to revolutionize educational publishing.

While we agree the potential is great, many e-book-related products currently available in the market are not usable by whole segments of the population. Individuals with certain disabilities often cannot use hardware-based and software-based e-book readers.

This represents not only a loss of market share but a form of discrimination. The market needs to respond with well-designed products that include people with disabilities and others—especially if makers of those products expect to sell their goods to clients with public-sector funding, such as schools and universities, government agencies, non-profits, and so forth.

Promise Unfulfilled

Unfortunately, moving from print to digital formats does not make books more accessible for everyone. Individuals with print disabilities—those who are blind, for example, or have dyslexia—will find most e-books and e-book readers a frustrating example of extraordinary promise unfulfilled, at least at this point.

In some cases, e-books can be worse than printed texts when their content is presented in a locked digital format. When a printed book is not accessible, it can still be scanned into a more accessible digital format and made usable with screen readers, text-to-speech applications, and other accommodations. In the case of locked digital files, e-books can be a step backward for people with disabilities.

Kindle Fire

For example, the American Foundation for the Blind (AFB) has criticized Amazon, whose Kindle Fire device sold record numbers over the 2011 holiday season, for not making that device accessible to blind people: “It is simply that Amazon and others who create many of today’s electronic books also create barriers for millions of potential customers who are blind,” the AFB said in a blog post.ⁱ

Apple iBook Exemplars

Elsewhere, the textbooks that were recently released as iBook2 exemplars by Pearson and McGraw Hill are not accessible to individuals who are blind and have reading-related learning disabilities.

Apple does a lot of things right. It provides supports and features necessary for learners with print disabilities in iBook Author. The E.O. Wilson Biodiversity Foundation provided one textbook that did a pretty decent job of implementing many necessary accessibility features.

- ✓ It provided captions for video and alternative text for most visual content and placed live text over images so that they could be read aloud.
- ✓ The text zoom feature of the accessibility settings on the iPad work for enlarging the text and page size. Users have to scroll around to see a whole page but it should provide basic support to those with low vision.
- ✓ Users can easily switch from normal to zoom mode with a few finger taps.
- ✓ Most main page content, but not all text, can be read aloud with VoiceOver.
- ✓ The overall design is attractive and engaging, and the 3D features also are engaging for those who can see the screen, all of which can support individuals who struggle to learn using traditional texts.

However, the big publishers using iBook Author have failed to create textbooks that truly can be called universally designed:

- ✓ VoiceOver will not work for content that is not provided as live text. This is also true of text that overlays images when that text is not live and alternative text is not provided.
- ✓ No alternatives are provided for 3D enhancements, rendering a leading feature of these books of the future inoperable for many users.
- ✓ Little or no alternative text is provided for images and math equations in the iBook-based textbooks created by McGraw Hill and Pearson.
- ✓ Navigation of these textbooks may be difficult for many with physical challenges.

Civil Rights Questions

As e-books move into education, federal civil rights laws also come into play. If market opportunities don't make e-book developers and publishers sit up and take notice of the need for fully accessible versions, then a rising tide of civil-rights concerns might.

In January 2012, the National Federation of the Blind (NFB) filed a complaint with the U.S. Department of Justice, Civil Rights Division, requesting an investigation of the Baltimore City Public Schools' proposed acquisition of Barnes and Noble's NOOK e-reader devices, which NFB says violates the Americans with Disabilities Act (ADA).ⁱⁱ

In 2010, the U.S. Department of Education's Office of Civil Rights (OCR) wrote a strongly worded "Dear Colleague" letter to college and university officials reminding them that long-standing federal law requires them to guarantee all students equal opportunity in the classroom.ⁱⁱⁱ The letter was issued in response to some colleges requiring use of the Kindle Reader for some courses while Kindle was not accessible to some learners with disabilities.

As the OCR stated: "Requiring use of an emerging technology in a classroom environment when the technology is inaccessible to an entire population of individuals with disabilities—individuals with visual disabilities—is discrimination prohibited by the ADA and Section 504 of the Rehabilitation Act of 1973 (Section 504) unless those individuals are provided accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner."^{iv}

A follow-up memorandum clarified that these civil rights principles—equal treatment, equal opportunity—apply to any educational venue using public funds, which is nearly all schools, public and private, from pre-kindergarten through post-secondary.

Looking Forward

Once publishers fulfill their obligation to diverse learners, then we can begin to re-think the design of our dual system that provides inaccessible instructional materials to schools and requires another supply chain to obtain necessary accessible specialized formats from other providers.

Attending to usability and accessibility concerns from the outset is not only morally and ethically right but makes smart business sense. The technology exists to make e-books usable by all potential consumers.

The emergence of EPUB 3 could help. Issued by the International Digital Publishing Forum (IDPF), EPUB 3 offers guidance for improving the usability of e-book enhancements such as video, audio, interactivity, vertical writing and other global language capabilities, MathML, styling and layout, and accessibility features. In announcing the new standard, IDPF Board President George Kerscher, who is blind, says EPUB3 raises the possibility that “now every e-book can be a fully accessible e-book.”

*Can be, yes—but only if e-book developers and publishers pledge to design and build for *all* users.*

Questions or Comments

For more information or to schedule an interview, contact David Gordon (dgordon@cast.org).

Available for interviews:

Chuck Hitchcock

AIM Center, Project Director

Joy Zabala

Director of Technical Assistance

Skip Stahl

Senior Policy Analyst

About the National Center on Accessible Instructional Materials (AIM Center)

The AIM Center is funded by the U.S. Department of Education, Office of Special Education Programs (OSEP). The Center is a technical assistance and dissemination center working with states, disability advocates, national associations, the OSEP technical assistance network, technology experts, publishers, and content conversion houses to improve the timely delivery of high-quality accessible instructional materials to students with disabilities. To learn more, go to www.aim.cast.org.

ⁱ <http://afb.org/blog/blog.asp?BlogID=7&BlogEntryID=196>

ⁱⁱ <http://www.businesswire.com/news/home/20120104006189/en/National-Federation-Blind-Files-Complaint-Baltimore-City>

ⁱⁱⁱ <http://aim.cast.org/learn/policy/federal/ocr>

^{iv} <http://www2.ed.gov/about/offices/list/ocr/letters/colleague-20100629.html>