

Acquiring Educational Technology for all Students: Considering Instructional Software

by

Patricia Hendricks

Temple University

In 2001 and 2002, Maryland passed legislation and regulations requiring school systems to “ensure that technology-based instructional products provide students with disabilities equivalent access” (Maryland State Department of Education, 1999, Sec. 2) and to base their selection and evaluation of technology-based instructional products on the standards in Section 508 of the Rehabilitation Act of 1973. Maryland legislation also requires that teacher-created technology instructional materials such as websites be made accessible by 2004.

Maryland’s legislation was written to provide all of the state’s students with access to high-quality instructional products. Like the federal legislation, it also seeks to drive accessibility into the design and development of instructional products by regulating purchasing behavior. Consequently, Maryland’s educators must have an awareness and skill in evaluating technology-based instructional products.

At the Maryland State Department of Education’s request, the Mid-Atlantic Regional Technology in Education Consortium (MAR*TEC) has expanded their instructional technology Preview Center to include an accessibility toolkit. It is designed to help educators understand the accessibility of instructional software and how to evaluate it. This toolkit includes an online tutorial to introduce the ideas and concepts of accessibility. It also includes an accessibility checklist, a hypertext glossary defining technical terms and terms specific to Section 508, and a contextual explanation that helps educators understand the importance of Section 508 regulations.

Section 508 Requirements

As amended in 1998, Section 508 requires that the needs of all users, including people with disabilities, be taken into account when procuring electronic and information technology. Section 508 provides guidelines to federal employees for purchasing technology that will allow all federal employees equal access to information. Waddell (2003) suggests that one purpose of Section 508 is to provide a marketplace incentive for the design and development of accessible technology-based products. She states, “Using the power of the federal purse, Section 508 seeks to drive accessibility into the design of electronic and information technology” (online video forum). Section 508’s ability to drive accessibility into the design of technology products hinges on the consumers’ understanding of what makes technology accessible and their capacity to translate their knowledge to effective evaluation and purchasing of technology-based products.

Section 508 is a federal law that is directed at federal employees and federal purchasing decisions. However, some state legislatures are using Section 508 requirements as the basis for state legislation regarding the purchase of electronic and information technology. For instance, Kentucky passed legislation in April 2000 (KRS 61.980 to 61.988) requiring school systems to comply with Section 508 when purchasing and implementing information technology (Kentucky Accessible Information Technology Statute, 2000). California requires that school districts detail Section 508 compliance in their technology plans. However, this legislation is not enforced and technology plans are not currently written using Section 508 language. California legislation also requires that publishers produce e-texts. Legislation is pending in California requiring that developers and vendors use some universal design principles. In 1999, Arkansas passed legislation requiring that educational technology purchases be accessible to blind students.

MAR*TEC Accessibility Toolkit

The MAR*TEC accessibility checklist helps educators consider the accessibility of instructional software. It is based on 508 software standards and is a collaborative repository.

Thus, it helps districts prevent “recreating the wheel” syndrome. The data is available anytime and anywhere there is an Internet connection. In addition, the MAR*TEC accessibility checklist is written in natural language and built on educator reviews rather than vendor promises.

MAR*TEC staff found that the legalistic language of Section 508 was difficult for educators to understand and therefore was an obstacle for them in evaluating whether software met the accessibility requirements. For instance, Section 508 states, “When software is designed to run on a system that has a keyboard, product functions shall be executable from a keyboard where the function itself or the result of performing a function can be discerned textually” (Subpart B, 1194.21).

Consequently, MAR*TEC “translated” the legal language into a checklist written in normal English with hyperlinks back to the original 508 standards. For instance, the requirement cited earlier was translated as follows: “The student can successfully operate this software without a mouse, by using only a keyboard. This means that the student can navigate through the software, select options, and give the software commands such as ‘print’ and ‘save’ without using a mouse.” MAR*TEC staff found that by using this checklist teachers could more easily understand the requirements and could competently review a piece of software.

How to Use the Accessibility Toolkit

The MAR*TEC Accessibility Checklist sits within the MAR*TEC Preview Center. It can be found at <http://www.temple.edu/martec/previewc.html>. The Preview Center is a physical collection of instructional software and an online database of educators’ reviews.

- Select “Educational Software Catalogue” to see a search screen. Users can search for a specific piece of software or “view all products” within the database at http://129.32.108.4/swcatalog/de_swcatsearch.asp. Currently, the database contains two distinct tools for evaluating instructional software. The first survey assesses the educational usability of each piece of software. The second is the accessibility checklist.
- Select “View all Products” to receive a descriptive list of software. Five titles are delivered in each window, and users may page forward by selecting “next” at the bottom of the screen.
- Select “Add a Review” to add your own review (right side of navigation bar). Users who wish to add a review must first register, but a user may view other practitioner reviews by selecting “view reviews of usability” or “view reviews of accessibility.”
- Select a question heading to read the Section 508 standard and an explanation of why that standard is valid or of concern to students with disabilities. For an example, go to <http://129.32.108.4/swcatalog/508help.htm#q1>.
- Select a highlighted word to open the hypertext glossary. Technical words or terms specific to Section 508 that may pose problems for general educators are defined in this glossary. For example, please refer to <http://129.32.108.4/swcatalog/508glossary.asp>.
- Select “View Reviews of Accessibility” to receive a detailed description of practitioner reviews. The accessibility reviews are presented using the precise language of the standards. Each specific review details how many reviewers suggest that this software meets the criteria, and how many reviewers suggest that the software does not meet the criteria. To see an example, go to <http://129.32.108.4/swcatalog/accessreview.asp?code={72416036-63E6-11D5-AE6A-F0D3CAA7D587}&id=1&move=forward&pos=0&count=210&sendQry=>.

- Select “Tutorial” to see specific examples of instructional software. The tutorial may be viewed at <http://www.temple.edu/martec/accessibility/nav1.html>.

Conclusion

The MAR*TEC accessibility toolkit helps educators understand the issues of accessibility of instructional software for students with disabilities. It encourages collaboration among the local education agencies in Maryland and across the country. Most importantly, it helps to drive accessibility into the design of instructional software by supporting the informed evaluation of instructional software.

References

-
- Kentucky Accessible Information Technology Statute. (2000). Retrieved August 2003, from <http://www.katsnet.org/ait-law.rtf>
- Maryland State Department of Education (1999). COMAR Online. Retrieved August 2003, from <http://www.msde.state.md.us/technology/comar13a.htm>
- Rehabilitation Act of 1973. Retrieved August 2002, from <http://www.usdoj.gov/crt/508/508law.html>
- Section 508. Software applications and operating systems. Subpart B, 1194.21. Retrieved August 2003, from <http://www.section508.gov/index.cfm?FuseAction=Content&ID=12#Software>
- Wadell, C. (2003, February). *Review of 508 activities in the various states*. Retrieved August 2003, from http://www.tvworldwide.com/event_030224_access_forum.cfm