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Why is Technology Access for Students With Disabilities Important?

“Every school has higher student performance and meets state academic standards for all students each year.”

— One of SREB’s *Challenge to Lead* Goals for Education, which assert that SREB states can lead the nation in educational progress

Equal access for all students

The Southern Regional Education Board (SREB) Goals for Education and federal *No Child Left Behind* (NCLB) legislation have the same focus: improving academic achievement for **all** students. SREB and NCLB recognize technology’s role in helping students meet higher standards for academic performance. States must ensure that all students — including those with disabilities — have access to and can use the technology.

What barriers impede students with disabilities when they use technology? Even when they use assistive technology, such as screen readers, students with vision, hearing and mobility impairments often have difficulty accessing instructional materials used in online courses, Web resources, simulations and online interactions with instructors. For students with impaired vision, screen readers may not be able to read the images or table data on a Web page. Students with impaired hearing cannot learn from uncaptioned audio or multimedia presentations. Colorblind students cannot distinguish between some text colors used for correct answers or for emphasis. Reply boxes (because of size, shape and location) and timed responses are difficult for students with mobility disabilities to use successfully. These barriers limit the educational opportunities for students with disabilities, interfere with their overall learning and prevent them from meeting academic standards.

What is the difference between “assistive technology” and “accessible information technology”?

Assistive technology is any technology that people with disabilities use to help them in their daily lives. Examples include special keyboards or software to magnify computer screens. Advances in assistive technology devices and software have made technology much more accessible.

Information technology — such as computers, software and Web sites — is accessible when people with disabilities can use it easily. Everyone should be able to use accessible information technology.

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Key federal disability laws include Section 504 of the Rehabilitation Act of 1973, Section 508 of the Rehabilitation Act, the Americans With Disabilities Act of 1990, the Individuals With Disabilities Education Act of 1997 and the Assistive Technology Act of 1998. These regulations require public programs and services to be accessible to people with disabilities. Because most of these laws predated the widespread availability of the Internet, Section 508 was amended in 2000 to address accessibility to electronic or information technology.

While colleges and universities that receive federal funding for certain programs must comply with these laws, K-12 schools are not required to meet those standards. However, the U.S. Department of Education in February 2001 issued “Requirements for Accessible Electronic and Information Technology Design” to ensure that all of its programs and activities that use information technology are accessible to anyone with a disability. Programs and activities are directed to use the Section 508 standards as guidelines. This policy is online at www.ed.gov/fund/contract/apply/clibrary/software.html.

Section 508 requires that “when federal agencies develop, procure, maintain or use electronic and information technology, they shall ensure that the electronic and information technology allows federal employees with disabilities to have access to and use of information and data that is comparable to the access to and use of information and data by federal employees who are not individuals with disabilities, unless an undue burden would be imposed on the agency. Section 508 also requires that individuals with disabilities who are members of the public seeking information or services from a federal agency have access to and use of information and data that is comparable to that provided to the public who are not individuals with disabilities, unless an undue burden would be imposed on the agency.”

www.access-board.gov/sec508/508standards.htm

State laws, regulations and policy statements also address the issue. (The chart on page 5 provides an overview of actions by the SREB states.) While several states have laws dealing with accessibility for students with disabilities, most do not mandate compliance by education agencies and schools. Four exceptions are Arkansas, Kentucky, Maryland and North Carolina. For example, a 2000 Kentucky statute requires “state and state-assisted entities to ensure that information technology equipment and software ... provide access to blind or visually impaired and deaf or hard-of-hearing individuals” (www.katsnet.org/ait-law.rtf). All state-supported institutions — including K-12 systems and higher education — are required to comply. Maryland requires that “technology-based instructional products purchased by Maryland public school systems meet Section 508 requirements,” as detailed at www.msde.state.md.us/technology/access_tech.html and <http://cte.jhu.edu/accessibility/>.

Some SREB states address accessibility of instructional resources through their state-wide technology plans. The South Carolina Department of Education recently adopted a statewide technology plan that requires compliance with the Section 508 Web-accessibility standards. The technology plan requires each school district to designate personnel responsible for training and compliance within that district, and accessibility is addressed throughout the goals outlined in the plan. For example, the technology plan includes the following

goal: “The South Carolina Department of Education, the school districts and the schools will expand and support technology resources to assist educators and learners in meeting the state academic standards.” Part of that goal calls for the department and school districts to improve their skills in designing Web pages and to use them for instruction. It also requires that these instructional resources comply with Section 508 guidelines. The plan recommends that districts designate resource people to ensure that Web materials are accessible and to coordinate training and information about this issue among district personnel. This plan is online at www.myscschools.com/offices/technology/techplan/sctp2003_08/.

Standards for accessible information technology

There are two sources of standards for accessible information technology: the World Wide Web Consortium’s (W3C) Web Content Accessibility Guidelines and the federal Section 508 standards. The W3C’s guidelines for instructional resources were written by a consortium of leaders in the fields of accessibility and Web design. The guidelines are divided into three priorities — necessary, recommended and useful for accessibility — and are listed on the Web at www.w3.org/TR/WCAG10/.

The federal Section 508 standards were written by the Architectural and Transportation Barriers Compliance Board, the federal agency that drafted the Americans With Disabilities Act (ADA). These standards are based on the W3C guidelines but do not contain all the elements. The Section 508 standards are listed at www.access-board.gov/sec508/508standards.htm. A checklist format of them is available at www.webaim.org/standards/508/checklist.

When these two sets of guidelines were introduced, educators and developers of instructional technology found them too technical to understand and said that it would be too burdensome to develop Web-based instructional resources that would meet the standards. Several disability organizations provide educators with documents to clarify and simplify W3C’s guidelines and the Section 508 standards. For example, DO-IT, a disability organization from the University of Washington, lists the minimum standards that Web-based resources should meet:

- Maintain a simple, consistent page layout throughout the Web site.
- Keep page backgrounds simple. Make sure there is enough contrast between the text color and background color.
- Include captions for video and transcribe other audio resources.
- Make links to other resources descriptive.
- Use tables sparingly and consider alternatives.
- Provide alternatives for forms and databases.
- When applets and plug-in programs are used, provide alternatives that a screen reader can read.
- Include a note about accessibility and ask visitors for their input about accessibility.

A complete listing of the DO-IT suggestions is available at www.washington.edu/doi/Brochures/Technology/universal.design.html.

Several organizations have created tools to test information technology resources for Section 508 compliance. WAVE (www.wave.webaim.org/wave/index.jsp), A-Prompt (<http://aprompt.snow.utoronto.ca>) and Ask Alice (<http://askalice.ssbtechnologies.com:8080/ssb/aa/anon/index.jsp>) provide readers with free reports on inaccessible features. Bobby (<http://bobby.watchfire.com/bobby/html/en/index.jsp>) was once the best-known evaluation tool for accessibility. However, since it was sold to Watchfire, Bobby offers a free evaluation for only one page of a Web site. There is a fee for additional pages.

How can states improve access to instructional technology for students with disabilities? _____

Several resources, tutorials and services are available to help adapt Web sites and instructional resources to comply with Section 508. The National Center for Accessible Media (<http://ncam.wgbh.org>) provides various tutorials. WebAIM (www.webaim.org/howto) offers excellent resources for little or no cost. The regional Disability and Business Technical Assistance Centers (DBTACs) provide educators with free technical assistance and training in accessible information technology (www.adata.org/). More information on additional resources to help educators make information technology accessible to students with disabilities is available on the SREB Web site at www.sreb.org/programs/EdTech/pubs/PDF/AccessibleInformationTechnologyResources.asp.

Does the need to ensure accessibility of resources change the way teachers teach and students learn? If online interactions are used in the classroom, the process must be accessible for all students. Online tools that provide information and instruction (including electronic mail and listservs) are generally accessible to those with disabilities. One potential challenge for students with disabilities is the use of “chats,” in which participants communicate as though they are face to face. Students with impaired mobility may have difficulty keeping up with the pace of the conversation, and screen readers used by those with vision disabilities may not be able to read the chat format. An online solution may be a “voice chat,” which uses the computer’s microphone and speakers. For more information, read the article “Are chat rooms accessible to people with disabilities?” at www.washington.edu/accessit/articles?64.

The benefits of accessible information technology extend to students without disabilities as well. For example, programs that look for keywords can search accessible PDF (portable document format) documents and Web sites that have alternative text included (to increase accessibility for students with disabilities). These accessibility features thus make it easier for all students to search for particular words or phrases within the document or site. Accessible documents also are more compatible with second-generation browsing devices, such as wireless handheld computers. Captioned videos may help students whose instructor is difficult to understand. Limiting graphics and video or providing text-only alternatives also makes information accessible to students with older equipment and slower Internet connections.

The legal requirement is not the only reason that departments of education need to promote accessibility of information technology resources. The most important reason is that accessibility of these resources gives students with disabilities greater independence in reading, writing and other academic areas. Accessible technology enables all students to participate in mainstream classroom activities and equips them with the skills they will need to succeed in the technology-centered workplace. Eliminating barriers to technology helps states meet the goal of improving the academic achievement of all students!

SREB State Laws, Regulations and Policies on Accessible Information Technology

Alabama	<p>The Alabama Department of Finance adopted the “State of Alabama Universal Access Design Standards” for state agencies’ Web sites hosted on the alabama.gov portal. School Web sites are excluded from this policy. www.alabama.gov/utility/accessibilitypolicy.html</p>
Arkansas	<p>State law requires that all “advanced technology” provided by or funded by the state be accessible to people with vision impairments. This law applies to schools and other educational agencies. The Arkansas Office of the Executive Chief Information Officer drafted state accessibility standards modeled on the World Wide Web Consortium (W3C) standards. www.techarch.state.ar.us/domains/accessibility/standards/standards_for_web_page.doc www.tic.state.ar.us/SpecTopics/SEA/SEA_Home.htm</p>
Delaware	<p>An executive order issued in 2001 called for the creation of a steering committee on information technology and identified accessibility as a topic for future regulations. The state’s Web Presentation Guidelines provide limited guidance on accessibility. Schools are not required to adhere to these guidelines. The Government Information Center developed a Web site called Accessibility Central that contains resources on accessible Web design. www.state.de.us/sos/gic/access_central.shtml www.state.de.us/sos/gic/reports/web_guidelines_version_2.0.htm</p>
Florida	<p>The Florida State Technology Office adopted the Section 508 standards as the policy for state Web sites hosted on the myflorida.com portal. These standards apply to state agencies but not to schools. www.myflorida.com/myflorida/accessibility.html</p>
Georgia	<p>The Georgia Technology Authority adopted the “necessary” requirements of the W3C guidelines as the policy for state Web sites hosted on the georgia.gov portal. Schools are exempted from this policy. www.georgia.gov/00/static/0,2144,4802_0_0_Accessibility,00.html</p>

SREB State Laws, Regulations and Policies on Accessible Information Technology (continued)

Kentucky	State law requires the state and state-assisted organizations to provide equivalent access to people with disabilities. This law applies to all agencies, including schools. The Kentucky Finance and Administration Cabinet has not yet adopted policies to enforce this law. www.katsnet.org/ait-law.rtf
Louisiana	The Louisiana Office of Electronic Services lists electronic resources for Web page accessibility. No state law or policy requires schools to make information technology accessible. www.state.la.us/ldbc/webaccess.htm
Maryland	State law requires the chief of information technology to adopt standards regarding the provision of information technology. A state regulation requires school districts to comply with Section 508 in procuring information technology for use both within the Department of Education and by students. www.msde.state.md.us/technology/access_tech.html http://cte.jhu.edu/accessibility/
Mississippi	The Mississippi Department of Information Technology Services adopted a hybrid of the W3C and Section 508 guidelines for state agencies' Web sites hosted on the mississippi.gov portal. Schools are exempted from this policy. www.state.ms.us/access_policy.jsp
North Carolina	State law requires state agencies, including schools, to provide "reasonable aids and adaptations" for information technology access. The North Carolina Information Resource Management Commission selected a group to draft a report on standards for accessibility. http://irmc.state.nc.us/access/finalrpt.htm
Oklahoma	The Oklahoma Office of State Finance requires state agencies' Web sites hosted on the youroklahoma.gov portal to adhere to the Section 508 standards. Schools are exempted from this policy. www.youroklahoma.com/?s=policy/accessibility_policy.html
South Carolina	The South Carolina chief information officer reported to the Legislature on the state's options and budget for accessibility of information technology. The South Carolina Department of Education has adopted a state educational technology plan that addresses the accessibility of information technology. www.myschools.com/offices/technology/techplan/sctp2003_08/

SREB State Laws, Regulations and Policies on Accessible Information Technology (continued)

Tennessee	The Tennessee Governor’s Office adopted a Web publishing policy, based on Section 508, for agencies in the executive branch. Schools are exempted from this policy. www.tennesseeanyttime.org/tnanytime/accessibility/
Texas	State law requires state agencies’ Web sites to meet generally acceptable standards for accessibility. Schools are exempted from this law. The Texas Department of Information Resources adopted standards for state agencies. www.dir.state.tx.us/standards/srrpub11-accessibility.htm
Virginia	State law requires state agencies’ Web sites to provide state employees and the general public with “nonvisual” access to information technology. (Nonvisual refers to any means of synthesized speech, Braille and other methods that do not require sight.) Schools are exempted from this state law. The Virginia Information Providers Network drafted accessibility guidelines for state agencies’ Web sites. www.vipnet.org/cmsportal/vipnet_987/services_1145/information_1962/
West Virginia	The West Virginia Governor’s Office on Technology adopted Web page guidelines, based on the W3C guidelines, for state agencies. Schools are not required to adhere to these guidelines. www.state.wv.us/got/rWebGuidelines.asp

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