Checklist Companion Guide

This guide accompanies the Information Technology in Education Accessibility Checklist (*http://www.washington.edu/accessit/it-checklist/checklist.pdf*), which can assist you in making your educational environment more accessible to students and employees with disabilities. It was developed to inform and assist educational entities regarding information technology (IT) accessibility and is not intended to replace federal and state guidelines and standards that more formally define IT accessibility.

Instructions

To make the most effective use of the checklist:

1. Complete the checklist by selecting "Not started", "Complete", or any of the three levels of "In progress" for each item. If an item is not applicable for your environment, leave it blank.

2. For further information on any item, or if you have any questions whatsoever about information technology accessibility, contact the ADA & IT Accessibility Center in your region by voice or TTY (**1-800-949-4232**).

3. For an interactive checklist, use the **online version** at *http://www.washington.edu/accessit/it-checklist*. The online version allows you to save your responses and track your school's progress over time in making its information technology more accessible.

Is your physical environment accessible?

The first step in assuring that students with disabilities can access IT resources is to locate these resources in a physically accessible facility. The federal Access Board has developed specific physical accessibility standards in the <u>ADA Accessibility Guidelines</u> (ADAAG, *http://www.access-board.gov/adaag/html/adaag.htm*). This section of the checklist includes a few items that are especially important for assuring access to IT-equipped labs and classrooms.

Physical Access

A physically accessible environment is one that wheelchair users can get to and navigate within. It is also one in which signage is accessible to people with visual impairments, and one that allows occupants to adjust lighting and noise levels as needed.

1. Computer labs and technology-equipped classrooms are physically accessible to wheelchair users.

The ADA Accessibility Guidelines (ADAAG, *http://www.access-board.gov/adaag/html/adaag.htm*) is a federal standard for measuring compliance with the Americans with Disabilities Act (ADA) of 1990. The ADAAG includes technical specifications for space allowance and reach ranges, routes, protruding objects, ground and floor surfaces, ramps, stairs, elevators, doors, entrances, controls and operating mechanisms, alarms, signage, and much more.

Stated simply, for a facility to be accessible to wheelchair users, users must be able to get to the building, enter it, get to the floor on which the facility is located, and enter the facility. Stairs, narrow entryways, doors without automatic openers, cluttered pathways, and protruding objects are all possible barriers.

Inside the facility, aisles should be kept wide and clear so that wheelchair users can access them. Work surfaces should be of sufficient height to accommodate wheelchair users. Adjustable-height surfaces are an excellent option, because they can be shared among people with varying height needs. If a service counter/desk is available, at least part of that counter/desk should be height-adjustable to the wheelchair user. Details are provided in the ADAAG.

The following AccessIT Knowledge Base articles may also be of interest:

- How can I design a school computer lab to be accessible to all students?
  http://www.washington.edu/accessit/articles?91

- How can postsecondary technology-enhanced learning environments be made accessible?
  http://www.washington.edu/accessit/articles?156

- What is universal design?
  http://www.washington.edu/accessit/articles?108

2. Computer labs and technology-equipped classrooms are physically accessible to users with visual impairments.

The ADA Accessibility Guidelines (ADAAG, *http://www.access-board.gov/adaag/html/adaag.htm*). is a federal standard for measuring compliance with the Americans with Disabilities Act (ADA) of 1990. The ADAAG's technical specifications address accessibility for people who use wheelchairs, as well as people with visual impairments and other disabilities. The following are some of the issues to consider in order to ensure that your facility is accessible to users with visual impairments:

- Directional signs leading to computer labs and classrooms should have large lettering with high color contrast.

- Directional signs leading to computer labs and classrooms should be available in Braille.

- Elevators should have both auditory and visual signals for floors, and elevator controls should be accessible from a seated position and available in large print and Braille or raised notation.

- Lighting should be adjustable by the individual.

- Window blinds should be available to reduce glare, especially on computer screens.

Individuals with visual impairments also benefit from having a lab environment in which few obstacles protrude into or otherwise block their paths. An obstacle-free facility also benefits wheelchair users.

3. There are quiet work and/or meeting areas where noise and other distractions are minimized, or facility rules are in place (e.g., no cell phone use) to minimize noise.

Many individuals have difficulty concentrating in noisy or distracting environments. Noise is particularly problematic for individuals with learning disabilities, Attention Deficit Disorder, or psychiatric disabilities. Also, speech recognition technology used to operate the computer and dictate documents performs poorly in noisy environments.

Is your information technology environment accessible?

Information technology includes computer hardware and software, websites, multimedia, telecommunications products, and standalone products such as printers and information kiosks. Accessibility standards for each of these product categories are included within the federal Access Board's Electronic and Information Technology Accessibility Standards (*http://www.access-board.gov/sec508/508standards.htm*). This section of the checklist includes a few of the issues that must be considered in order to assure that IT resources are accessible to all users.

Computer Hardware and Software

In order for computers to be accessible, users must be able to perceive the output and operate the controls.

4. When we purchase computer hardware, we take steps to assure it is accessible.

The Electronic and Information Technology Accessibility Standards (*http://www.access-board.gov/sec508/508standards.htm*), developed by the federal Access Board as required by 1998 amendments to Section 508 of the Rehabilitation Act, includes standards for desktop and portable computers.

There are four standards, paraphrased below:

- Products' controls should be tactilely discernible and operable by users with various levels of hand mobility, including grasping, pinching, and twisting.

- Touch screens or touch-operated controls should also comply with the above.

- When biometric forms of user identification or control are used, an alternative form of identification or activation that does not require the user to possess particular biological characteristics shall also be provided.

- Expansion slots, ports, and connectors should comply with publicly available industry standards, in order to support assistive technologies.

Educational entities can ensure that their purchases are accessible by building accessibility considerations into their purchasing guidelines or requirements and/or implementing policies that require such considerations.

The following AccessIT Knowledge Base articles may also be of interest:

- What standards exist for procuring accessible desktop and portable computers?
  http://www.washington.edu/accessit/articles?94

- Oregon State University: A Promising Practice in Establishing Hardware Purchasing Accessibility Guidelines
  http://www.washington.edu/accessit/articles?177

- VPAT: A Promising Practice in Accessibility Reporting
  http://www.washington.edu/accessit/articles?212

- The Federal Government: A Promising Practice in Providing Assistance to Procurement Officials
  http://www.washington.edu/accessit/articles?213

5. When we purchase computer software, we take steps to assure it is accessible.

The Electronic and Information Technology Accessibility Standards (*http://www.access-board.gov/sec508/508standards.htm*), developed by the federal Access Board as required by 1998 amendments to Section 508 of the Rehabilitation Act, includes standards for software accessibility.

There are twelve standards covering *software applications and operating systems*. The standards essentially address the need for products to be operable with multiple input devices (keyboards, mice, etc.) and perceivable with multiple output devices (monitor, audible screen reader, tactile Braille display, etc.). They also address the need for applications to support users' settings preferences (for font sizes, color contrast, etc.) and compatibility with operating systems' accessibility features and assistive technologies.

Educational entities can ensure that their purchases are accessible by building accessibility considerations into their purchasing guidelines or requirements and/or implementing policies that require such considerations.

The following AccessIT Knowledge Base articles may also be of interest:

- How can I tell whether a software application is accessible?
  http://www.washington.edu/accessit/articles?1

- What standards exist for developing and purchasing accessible software?
  http://www.washington.edu/accessit/articles?98

- VPAT: A Promising Practice in Accessibility Reporting
  http://www.washington.edu/accessit/articles?212

- The Federal Government: A Promising Practice in Providing Assistance to Procurement Officials
  http://www.washington.edu/accessit/articles?213

6. Operating systems' built-in accessibility features are available by default.

Most operating systems (OS) provide some accessibility features as part of the OS distribution. These range from simple utilities that allow users to adjust keyboard, display, and alert settings to assistive technology applications that provide basic screen reader capabilities for blind users, screen magnification capabilities for users with low vision, and on-screen keyboards for users of alternative input technologies such as head pointers.

Without these applications, some users will be unable to access the computer desktop at all. These built-in accessibility features should be available by default and should be activated by well documented shortcut keys so that users can activate these features independently.

The following AccessIT Knowledge Base articles may also be of interest:

- What accessibility features are available for Windows?
  http://www.washington.edu/accessit/articles?12

- What accessibility features are available for Mac OS?
  http://www.washington.edu/accessit/articles?14

- Is Linux accessible?
  http://www.washington.edu/accessit/articles?13

- How does accessibility differ across operating systems?
  http://www.washington.edu/accessit/articles?15

7. Users can customize their desktop settings in our public computing environment.

Most operating systems (OS) provide users with the ability to adjust their desktop settings. For users with disabilities, customizing their computer interface is critical for their access. For example, some users with visual impairments need to adjust color contrast and/or increase font size. Other users may need to create desktop shortcuts to commonly used assistive technologies so that they can independently activate those tools as needed.

Often educational entities fail to implement these features, because of either a lack of awareness or unsubstantiated security concerns.

Websites

Techniques are well established for developing web content that is accessible to all users. However, these techniques must be practiced by web authors and developers. Typically for educational entities this requires an ongoing effort to monitor web accessibility and to educate authors and developers regarding web accessibility.

8. Our official (centrally supported) websites are accessible (i.e., compliant with established web accessibility guidelines or standards).

There are multiple sets of guidelines and standards for web accessibility. The most comprehensive of these is the Web Content Accessibility Guidelines (WCAG, *http://www.w3.org/TR/WCAG10/*), developed by the World Wide Web Consortium (W3C). The WCAG 1.0 includes fourteen guidelines, each of which is further clarified by specific checkpoints. There are a total of sixty-five checkpoints covering a comprehensive set of accessibility issues in web design. Each of these checkpoints is further qualified with a priority ranking, 1 through 3, priority 1 being highest (web content that fails a priority 1 checkpoint is totally inaccessible to one or more groups of users).

Another set of web accessibility standards is included in the Electronic and Information Technology Accessibility Standards (*http://www.access-board.gov/sec508/508standards.htm*), developed by the federal Access Board as required by 1998 amendments to Section 508 of the Rehabilitation Act. These standards closely parallel the Priority 1 checkpoints from WCAG 1.0, but the language has been modified with a focus on ensuring that the standards are measurable and enforceable.

Many states have issued web accessibility policies, either by adopting an existing set of standards or by developing their own, informed by the existing standards. Some state policies explicitly extend to educational entities within those states; others do not. However, many educational entities have developed their own web accessibility policies and/or guidelines. Most of this activity is occurring at the postsecondary level, but as K-12 entities are turning increasingly to the web for curriculum, administrative functions, and parent/community outreach, there is growing interest in web accessibility in K-12 environments as well.

The following AccessIT Knowledge Base articles may also be of interest:

- What is the difference between the W3C guidelines and the Section 508 standards for web accessibility?
  http://www.washington.edu/accessit/articles?18

- How can educational entities determine if their websites are accessible?
  http://www.washington.edu/accessit/articles?71

- How can I better understand the Section 508 standards?
  http://www.washington.edu/accessit/articles?95

- What civil rights challenges might our postsecondary institution have if our websites are not accessible?
  http://www.washington.edu/accessit/articles?117

- Which educational entities have developed web accessibility policies?
  http://www.washington.edu/accessit/articles?122

- University of Minnesota: A Promising Practice on Developing an Accessible Information Technology Policy
  http://www.washington.edu/accessit/articles?220

- Does the information on public websites, intranets, and distance learning courses at postsecondary institutions have to be accessible to visitors with disabilities?
  http://www.washington.edu/accessit/articles?226

- What does it mean to "effectively communicate" website content to individuals with disabilities as required by Section 504 and the ADA?
  http://www.washington.edu/accessit/articles?227

- Are there any court cases on web accessibility and the obligations of postsecondary institutions under Section 504 or ADA?
  http://www.washington.edu/accessit/articles?228

9. We have a system in place for monitoring and improving the accessibility of our web content.

Educational entities typically have hundreds, thousands, or even hundreds of thousands of web pages. Addressing the accessibility of such a vast quantity of web pages will likely require a systematic approach. A system for monitoring and improving the accessibility of web content might include the following components:

- Assign a specific individual or group the task of coordinating the web accessibility effort.

- Conduct benchmark web accessibility assessments at regular intervals to track progress.

- Pursue developing a high-level web accessibility policy or publishing web accessibility guidelines, in order to formalize your efforts and get buy-in from your institution's administration.

- Prioritize. Decide which pages are most critical and address those first. For example, an institution might decide that first priority is course content for courses in which students with disabilities are currently enrolled, second priority is sites with the highest traffic, and third priority is pages specifically relevant to students with disabilities (i.e., pages describing available disability accommodation services).

- Several commercial products are available that provide users with the ability to automatically evaluate web sites for accessibility. Some of these products were designed to evaluate large quantities of web sites by following links (spidering) from a single

starting page, such as the institution's home page. There are limits to what any tool can automatically assess (some web accessibility techniques require human judgment). However, tools like this can be effective for conducting benchmark assessments and tracking progress. High-end versions of these products have built-in functionality that was specifically designed to assist with implementing an enterprise-wide systematic accessibility improvement process.

The following AccessIT Knowledge Base articles may also be of interest:

- How can I test my website for accessibility?
  http://www.washington.edu/accessit/articles?87

- What web accessibility evaluation and repair tools are available?
  http://www.washington.edu/accessit/articles?148

Multimedia

People who are deaf or hard of hearing are unable to hear the audio portion of a multimedia presentation, so the content must be captioned in order to be accessible. People who are blind are unable to see content that is presented solely visually, so this content must be verbally described using a procedure known as audio description.

10. When purchasing multimedia products, we take steps to ensure they include captions and audio descriptions.

Multimedia presentations can be inaccessible to people who are unable to hear audio content and to people who are unable to see critical information that is presented visually. For people who are unable to hear the audio content, the content must include captions. For people who are unable to see critical information that is presented visually, the content must be verbally described (a process called *audio description*).

Some commercially available educational products are captioned. Multimedia products are particularly likely to have been captioned if they were produced for television. Section 713 of the Telecommunications Act of 1996 requires that video program distributors (cable operators, broadcasters, and satellite distributors) phase in closed captioning of their television programs. Deadlines call for 100% of new English-language programming to be captioned by 2006, 75% of pre-rule programming (i.e., programming first shown before January 1, 1998) to be captioned by 2008, and 100% of new Spanish-language programming to be captioned by 2010. When purchasing multimedia products, educational entities should consult the publisher about availability of captioned versions of the product. An accessibility procurement policy helps to ensure that this check actually takes place.

Currently, there are few commercial multimedia products available with audio description. Still, educational entities should inquire about availability as part of the multimedia purchasing process.

The following AccessIT Knowledge Base article may also be of interest:

- What standards exist for developing and purchasing accessible video and multimedia products?
  http://www.washington.edu/accessit/articles?93

11. We have a system in place for captioning any multimedia products that we create internally.

For multimedia presentations to be accessible to people who are unable to hear audio content, these presentations must be captioned. A growing number of captioning services have emerged and can be easily located via the web or in the Yellow Pages. Many educational entities, however, choose to caption their multimedia internally.

Captioning is not an especially difficult technical process, and some educational entities have found cost savings by hiring students to do the work. All that is required is a transcript and the means to synchronize that transcript with the multimedia presentation. Most video production equipment has the ability to add this synchronized text as a caption track. For web-based multimedia, the National Center on Accessible Media has developed a free software tool called MAGpie (*http://ncam.wgbh.org/webaccess/magpie/*), which simplifies the process of adding captions and audio descriptions.

The following AccessIT Knowledge Base articles may also be of interest:

- How do I make multimedia accessible?
  http://www.washington.edu/accessit/articles?70

- Does making our school web content accessible mean I cannot use multimedia on my site?
  http://www.washington.edu/accessit/articles?121

- How can I display accessible rich media in RealPlayer, QuickTime, and Windows Media Player?
  http://www.washington.edu/accessit/articles?160

- Is it better to caption or transcribe educational multimedia?
  http://www.washington.edu/accessit/articles?49

- DO-IT: A Promising Practice on Designing Accessible Videotapes
  http://www.washington.edu/accessit/articles?203

- Can captions be generated automatically using speech recognition?
  http://www.washington.edu/accessit/articles?209

- How can educational entities plan an accessible video production?
  http://www.washington.edu/accessit/articles?211

12. We have a system in place for adding audio description to any multimedia products that we create internally.

For multimedia presentations to be accessible to people who are unable to see critical information that is presented visually, this content must be verbally described (a process called *audio description*). The ability to describe video is a trained skill. The words that are chosen to describe a video and the way in which those words are spoken can have an impact on the message the video is communicating. Companies who provide audio description services typically hire script writers to write the descriptions and professional voice-over talent to read them. However, despite the difficulty in locating specially trained talent, all major web accessibility standards and guidelines require audio description, so educational entities are encouraged to find a way to implement it.

Fortunately, the technical aspect of adding an audio description track is not difficult. For web-based multimedia, the National Center on Accessible Media has developed a free software tool called MAGpie (*http://ncam.wgbh.org/webaccess/magpie/*), which simplifies the process of adding both captions and audio descriptions.

The following AccessIT Knowledge Base articles may also be of interest:

- How do I make multimedia accessible?
  http://www.washington.edu/accessit/articles?70

- What is audio description?
  http://www.washington.edu/accessit/articles?79

- What is rich media and how can I learn more about its accessibility?
  http://www.washington.edu/accessit/articles?146

- How do individuals who are blind access the visual content of an educational videotape?
  http://www.washington.edu/accessit/articles?152

- Are there standards or guidelines for providing audio description?
  http://www.washington.edu/accessit/articles?48

13. Our televisions are capable of displaying closed captions.

The Television Decoder Circuitry Act of 1990 required that television sets with screens 13 inches or larger manufactured for sale in the United States have built-in closed-caption decoder circuitry that allows viewers to display closed captions on their sets. The deadline for compliance with this act was July 1993, so any television purchased after 1993 should have built-in support for closed captions. Consult your television's manual or contact the manufacturer to learn how to turn on closed captions.

To display videos from a VCR, older television models may require an external closed-captioning decoder device that connects to both the VCR and the television and decodes the video's captions so that the television can display them.

Keep in mind that even if there are no students or instructors who are deaf in the class, captions benefit all those trying to listen in a noisy environment, as well as individuals for whom the video is not in their first language or who learn best or otherwise benefit from multisensory input.

The following AccessIT Knowledge Base articles may also be of interest:

- What are the deadlines for closed captioning of all television programming?
  http://www.washington.edu/accessit/articles?151

- What is the difference between open and closed captioning?
  http://www.washington.edu/accessit/articles?50

14. Our video projectors are capable of transmitting closed captions.

Whether or not video projectors can display captions depends on the source of the video. If the video is a computer-based multimedia file and is closed-captioned, each of the three most common multimedia players (Windows Media, RealPlayer, Apple QuickTime) are capable of displaying closed captions on the computer screen, and video projectors are capable of displaying all screen content, including the captions.

If the video source is a videotape being played in a VCR, only a few projectors are capable of directly accessing and decoding the caption track. For others, an external closed captioning device must be purchased separately. These devices decode the video's closed captions and deliver them to the projector, which displays them.

Keep in mind that even if there are no deaf students or instructors in the class, captions benefit all those trying to listen in a noisy environment, as well as individuals for whom the video is not in their first language or who learn best or otherwise benefit from multisensory input.

15. Our instructors and staff are trained on how to turn on captions, or clear instructions accompany the multimedia viewing equipment.

A system should be in place to ensure that anyone operating the television knows how to turn on captions if needed. This can be accomplished either by providing training to all relevant individuals or by posting instructions on or near the television.

Keep in mind that even if there are no deaf students or instructors in the class, captions benefit all those trying to listen in a noisy environment, as well as individuals for whom the video is not in their first language or who learn best or otherwise benefit from multisensory input.

Telecommunications Products

16. If one or more public telephones are available, at least one is mounted at an accessible height.

The ADA Accessibility Guidelines (*http://www.access-board.gov/adaag/html/adaag.htm*) include specific requirements for telephone mounting height, clear floor or ground space surrounding the telephone, cord length, and positioning of telephone books.

The following AccessIT Knowledge Base article may also be of interest:

- What access challenges do people with disabilities face when using a telephone?
  http://www.washington.edu/accessit/articles?80

17. TTYs are available for people who are deaf.

For individuals who are deaf or hard of hearing, telephone communication involves communicating by text rather than by voice, typically using a teletypewriter (TTY), also known as a TDD (Telecommunications Device for the Deaf). A basic TTY consists of a keyboard, a display screen, and a modem, which operates over standard telephone lines. If the individual is communicating with another TTY user, both users send and receive text. If the individual is communicating with someone who doesn't have a TTY, they will use the national Telecommunication Relay Service (TRS), in which relay operators provide two-way translation between spoken word and typed text. If TTYs are unavailable, public telephones should at a minimum include a port into which a TTY user can plug their own personal device.

The following AccessIT Knowledge Base article may also be of interest:

- What access challenges do people with disabilities face when using a telephone?
  http://www.washington.edu/accessit/articles?80

18. Faculty and staff are trained in the use of TTY and the national relay service.

For individuals who are deaf or hard of hearing, telephone communication involves communicating by text rather than by voice, typically using a teletypewriter (TTY), also known as a TDD (Telecommunications Device for the Deaf). A basic TTY consists of a keyboard, a display screen, and a modem, which operates over standard telephone lines. If an educational entity has a TTY, staff should be trained in how to use it so they can respond to calls from individuals who are deaf as effectively as from hearing individuals.

If no TTY is available or if a caller who is deaf isn't aware of the school's TTY number, the caller may call using the national Telecommunication Relay Service (TRS). The TRS is a free service that facilitates telecommunication between hearing-impaired and hearing individuals. The original TRS provides two-way translation between spoken word and typed text. The hearing user communicates by voice, the hearing-impaired user communicates by typing on a TTY, and the relay operator serves as a liaison, communicating by voice to the hearing party and by text to the hearing-impaired party.

Relay operators typically provide basic instruction to call recipients who are unfamiliar with the service. However, anyone who answers the phone should be aware of the relay service so they're not surprised or confused when they do receive TRS calls.

The following AccessIT Knowledge Base articles may also be of interest:

- What access challenges do people with disabilities face when using a telephone?
  http://www.washington.edu/accessit/articles?80

- What are relay services, and how do I access them?
  http://www.washington.edu/accessit/articles?111

Self-Contained, Closed Products

This category of products includes printers, scanners, information kiosks, and other products that are essentially standalone devices, though they may operate in conjunction with other devices in an IT system. Typically these devices have controls that users must operate, and they produce some form of information output that users must be able to perceive. A growing number of products in this category now include features that specifically address the needs of users with disabilities. However, many inaccessible products are still available as well.

19. People using wheelchairs can reach the controls on our printers, scanners, copiers, and other similar devices.

The Electronic and Information Technology Accessibility Standards (*http://www.access-board.gov/sec508/508standards.htm*) include ten standards specific to *self-contained, closed products*. One of the standards provides very specific detail regarding the height and position of operable controls on these types of devices.

Specifications from the ADA Accessibility Guidelines (*http://www.access-board.gov/adaag/html/adaag.htm*), particularly those covering controls and operating mechanisms and fixed or built-in seating and tables, may also be applicable.

The following AccessIT Knowledge Base article may also be of interest:

- Are there standards for developing or purchasing accessible fax machines, photocopiers, and other office equipment?
  http://www.washington.edu/accessit/articles?97

20. Our information kiosks are compliant with accessibility standards.

A fully accessible standalone device is one where all users can operate the controls and all users can perceive the output. The Electronic and Information Technology Accessibility Standards (*http://www.access-board.gov/sec508/508standards.htm*) include ten standards specific to *self-contained, closed products*. These standards provide guidance on how standalone devices can be made accessible to the broadest possible range of users.

If information kiosks are developed internally, all parties involved should be aware of these accessibility standards and of techniques for how to comply with them. If information kiosks are purchased from outside vendors, these vendors should be asked about the accessibility of their products, including their compliance with the standards.

The following AccessIT Knowledge Base articles may also be of interest:

- Are there standards for developing or purchasing accessible fax machines, photocopiers, and other office equipment?
  http://www.washington.edu/accessit/articles?97

- Are touch screens accessible?
  http://www.washington.edu/accessit/articles?172

21. Whenever we purchase standalone IT products, our purchasing policies or procedures require that we consider the accessibility of available products.

Educational entities can ensure that their purchases are accessible by building accessibility considerations into their purchasing guidelines or requirements and/or implementing policies that require such consideration.

The following AccessIT Knowledge Base article may also be of interest:

- Are there standards for developing or purchasing accessible fax machines, photocopiers, and other office equipment?
  http://www.washington.edu/accessit/articles?97

Information Resources

Using an IT product often requires reading or referring to the documentation on that product. Documentation that typically is provided in print should also be available in an alternate format that allows print-disabled users to access it.

22. In our publications, we include a statement about our commitment to access and procedures for requesting disability-related accommodations.

Universal design is the process of designing products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. If your learning environment, including all information technology, is accessible, then this will have the effect of minimizing the need for individual accommodations.

However, in the event that individuals with disabilities do need accommodations, they should know whom to contact and how to initiate that request.

The following is a sample statement:

"Our goal is to make all materials and services accessible to all students. Please inform staff of accessibility barriers you encounter, and request accommodations that will make activities and information resources accessible to you."

The following AccessIT Knowledge Base article may also be of interest:

- What is universal design?
  http://www.washington.edu/accessit/articles?108

23. All printed publications are available (immediately or in a timely manner) in alternate formats such as Braille, large print, and electronic text.

Any printed publications that are available for staff or students must be available for everyone, including those who are unable to read standard print. People with low vision may require large-print documents. Some people who are blind may require Braille.

Electronic versions of documents benefit the broadest set of users, including users with visual or learning disabilities, and are relatively easy to produce with a scanner and optical character recognition software. The best format for an electronic document is one that preserves the structure of the document, including headings. HTML serves this purpose nicely, as does DAISY (*http://www.daisy.org*), the digital standard for electronic talking books.

If the original print documentation comes from an external source, such as a publisher or a technology vendor, that organization may be able to provide the documentation in an accessible format in a timely manner.

24. Our publicly available printed materials are within easy reach from a variety of heights and without furniture blocking access.

Just as information technology needs to be in physically accessible locations, any other tools, materials, or resources (including but not limited to printed publications) should also be physically accessible.

The ADA Accessibility Guidelines (*http://www.access-board.gov/adaag/html/adaag.htm*) provide detailed specifications regarding space allowance and reach ranges, protruding objects, ground and floor surfaces, and other physical features that may apply to the environment in which your printed materials are made available.

Policies and Procedures

By adopting policies and procedures regarding IT accessibility, educational entities can work more easily toward their accessibility goals since they'll have clear authority and guidance as to what is expected. Policies and procedures are issued at many levels. Most states have laws or policies that require websites to be accessible, and several have laws that require accessibility to be included as a factor in making purchasing decisions. These laws and policies vary as to whether and how they apply to educational entities. Some K-12 districts, higher education systems, and individual educational entities have adopted their own policies.

25. We have a state law or policy that requires that our websites be accessible.

A majority of states now have policies, laws, or guidelines requiring that state websites be accessible. In some cases these policies apply only to state agencies, but in other cases their scope of coverage is broader and includes educational entities within that state.

State policies typically include some attempt at defining web accessibility by adopting or defining a particular set of standards. Having an awareness and understanding of your state's web accessibility policy, if any, can help to guide you in your web accessibility efforts.

The following AccessIT Knowledge Base article may also be of interest:

- Which educational entities have developed web accessibility policies?
  http://www.washington.edu/accessit/articles?122

26. We have a state law or policy that requires that we consider accessibility when procuring information technology.

While a majority of states now have web accessibility policies, only a few have developed or are developing policies or guidelines related to the accessibility of the broad array of information technologies, including all those technologies described in this checklist.

State IT accessibility policies typically focus on procurement contracts and require that vendors address the accessibility of their products as a standard part of the purchasing process.

The following AccessIT Knowledge Base article may also be of interest:

- Which educational entities have information technology accessibility policies?
  http://www.washington.edu/accessit/articles?150

27. We have a K-12 district or higher education system policy that requires that our websites be accessible.

Web accessibility policies are emerging at all levels. A majority of states now have web accessibility policies, as do some statewide higher education systems and K-12 school districts. Developing an awareness of your district or system's web accessibility policy, if any, can help to guide you in your web accessibility efforts. If no such policy exists, consider who within your educational entity might be a good contact for leading an effort to develop one.

The following AccessIT Knowledge Base article may also be of interest:

- Which educational entities have developed web accessibility policies?
  http://www.washington.edu/accessit/articles?122

28. We have a K-12 district or higher education system policy that requires that we consider accessibility when procuring information technology.

Educational entities can ensure that their purchases are accessible by building accessibility considerations into their purchasing guidelines or requirements and/or implementing policies that require such considerations.

The following AccessIT Knowledge Base articles may also be of interest:

- How can our school or district go about developing an accessible information technology policy?
  http://www.washington.edu/accessit/articles?170

- California Community Colleges: A Promising Practice for Distance Education Accessibility Guidelines
  http://www.washington.edu/accessit/articles?185

29. We have an institutional policy that prohibits discrimination against students with disabilities.

Whether or not your educational entity has specific policies regarding information technology accessibility and/or web accessibility, most institutions do have a broadly stated policy that prohibits discrimination, and often persons with disabilities are among the groups protected by that policy.

It could be argued that accessible technology is required within the scope of these broad antidiscrimination policies, since students with disabilities are denied access to school programs and services if the programs and services require access to technology and the technology is not accessible. Your institution's antidiscrimination policy is an excellent resource when advocating for the rights of students and staff with disabilities.

30. We have an institutional policy that requires that our websites be accessible.

Many institutions of higher education have developed web accessibility policies, guidelines, and/or standards.

The following AccessIT Knowledge Base articles may also be of interest:

- Which educational entities have developed web accessibility policies?
  http://www.washington.edu/accessit/articles?122

- University of Wisconsin–Madison: A Promising Practice on Development, Articulation, and Support of a Web Accessibility Policy
  http://www.washington.edu/accessit/articles?140

- SMSU: A Promising Practice on Building Accessibility into Mainstream IT Policies
  http://www.washington.edu/accessit/articles?171

- How can our school or district go about developing an accessible information technology policy?
  http://www.washington.edu/accessit/articles?170

31. We have an institutional policy that requires that we consider accessibility when procuring information technology.

Educational entities can ensure that their purchases are accessible by building accessibility considerations into their purchasing guidelines or requirements and/or implementing policies that require such considerations. A growing number of educational institutions, particularly at the postsecondary level, have done just that.

The following AccessIT Knowledge Base articles may also be of interest:

- How can our school or district go about developing an accessible information technology policy?
  http://www.washington.edu/accessit/articles?170

- University of Minnesota: A Promising Practice on Developing an Accessible Information Technology Policy
  http://www.washington.edu/accessit/articles?220

- Oregon State University: A Promising Practice on Establishing Software Access Guidelines
  http://www.washington.edu/accessit/articles?169

- Oregon State University: A Promising Practice in Establishing Hardware Purchasing Accessibility Guidelines
  http://www.washington.edu/accessit/articles?177

- VPAT: A Promising Practice in Accessibility Reporting
  http://www.washington.edu/accessit/articles?212

Support and Training

In order for an IT environment to be accessible as it continues to evolve, those who build and support the environment must be participants in assuring accessibility. This is only possible if instructors and staff are provided with adequate training on accessibility issues.

32. Training is available to web designers on how to create accessible web content.

At most educational institutions, web development is highly decentralized, and content is developed by a wide variety of individuals, including teachers and faculty, technical staff, library staff, administrative staff, and students. It is possible to create web content that is highly accessible to all users. Well-established standards and techniques exist that make this possible. However, many web authors are unaware of these techniques and even unaware that web accessibility is a problem. For these reasons, it is critical that training on accessible web design be systematically provided to anyone who is creating web content for your educational entity.

The following AccessIT Knowledge Base articles may also be of interest:

- Are there resources to help me in planning my web accessibility training?
  http://www.washington.edu/accessit/articles?73

- Where can I find a useful list of web resources regarding web accessibility?
  http://www.washington.edu/accessit/articles?72

33. Accessibility issues are incorporated into mainstream technology trainings for instructors and staff.

When determining how best to provide training on technology accessibility, consider how accessibility fits within the context of existing trainings. Specialized trainings that focus exclusively on accessibility, unless required, tend to attract only the few individuals who already have some exposure to or interest in this topic. When accessibility is incorporated into mainstream technology trainings, the message will reach larger audiences. Also, everyone who

is being trained to design, develop, or deploy technology will learn to do so with accessibility in mind.

Do you have the accommodations your students need to access your information technology environment?

Some individuals with disabilities require assistive technology in order to access information technology. Systems must be in place for assuring that individual needs can be met and that support staff know how to respond to an individual's request for accommodations.

Assistive Technology and Individual Accommodations

34. A variety of hardware and software-based assistive technologies are readily available for students with disabilities.

All technology users have different needs, preferences, and abilities when it comes to operating and controlling technology devices and perceiving and understanding their output. Some students with disabilities require assistive technology in order to access hardware, software, websites, and other information technologies. For example, students who are blind are unable to see the content of the screen, so they might use screen reader software in order to access the content audibly. Similarly, students who are unable to type or use the mouse may control technology using a speech recognition system, a head pointer, or an eye-gaze detection system.

Often assistive technology is purchased and deployed by those who are most knowledgeable about it, i.e., teachers and/or staff in special education (K-12) and disability services (postsecondary). However, in order for students with disabilities to have access to the mainstream computing environment, information technology staff must also have an understanding of assistive technology, as they are typically responsible for installing, supporting, and maintaining all tools used in the mainstream computing environment.

Also, technology accessibility requires a partnership between assistive technology and accessible information technology. Even when students are provided with the AT they need, they don't necessarily have access to technology, since that requires the additional step of ensuring that mainstream technologies are accessible, including compatibility with AT devices.

The following AccessIT Knowledge Base articles may also be of interest:

- What is assistive technology?
  http://www.washington.edu/accessit/articles?109

- Can information technology function as assistive technology?
  http://www.washington.edu/accessit/articles?238

35. We have a procedure to assure a quick response to requests for disability-related accommodations.

When disability-related accommodations are required, a quick response is often difficult to attain, and no response is quick enough. For example, if today's surprise take-home reading assignment is not available in an alternative format, a student who requires the alternative format is unable to participate along with his or her peers, and it might be difficult, if not impossible, to convert the document in a timely enough manner to prevent the student from falling behind. Other accommodations, such as identifying a suitable substitute for a required but inaccessible software package or captioning an inaccessible video, will take even longer.

Realistically, last-minute requests for disability-related accommodations are inevitable. However, having a well-documented procedure for responding to these requests will ensure that the individual's needs are met as quickly as possible. Also, by designing your learning environment so that it is as accessible as possible to all users on the front end, you minimize the need for individual accommodations.

The following AccessIT Knowledge Base article may also be of interest:

- What is universal design?
  http://www.washington.edu/accessit/articles?108

36. We have a designated staff member and/or committee who assures that services are accessible to students with disabilities and responds to requests for accommodations.

The role of providing individual accommodations for students with disabilities who need them is typically played by a special education director (K-12) or a disability services director (postsecondary). These individuals sometimes work as part of a larger team that identifies and delivers appropriate accommodations.

In addition to providing individual accommodations, this individual should be a major participant in the process of information technology planning and evaluation, since they bring to the table a unique knowledge of the needs of students with disabilities at your school and of the barriers these students face.

37. Computer support and help desk staff are trained in the maintenance and use of assistive technology.

Assistive technology is purchased and deployed by those who are most knowledgeable about it, i.e., teachers and/or staff in special education (K-12) and disability services (postsecondary). However, in order for students with disabilities to have access to the mainstream computing environment, information technology staff must also have an understanding of assistive technology, since they are typically responsible for installing, supporting, and maintaining all tools used in the mainstream computing environment.

38. Instructors and staff receive training on how to respond to requests for disability-related accommodations.

Assuming that your educational entity has well-established procedures for requesting disability-related accommodations, all instructors and staff should be aware of what those procedures are and should be prepared to refer individuals who need accommodations to relevant contacts and resources.

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