Lesson 12: WEB ACCESSIBILITY

PURPOSE

The purpose of this lesson is to increase your awareness of the use of adaptive technology in accommodations for students with disabilities.

By reflecting on your own course while reading the Lesson Content, you will be guided to consider possible modifications to your course specifically related to the accommodations for using web pages. By considering design features to include when setting up web content that will be accessible to all students; you will become more aware of the possibilities of adaptive resources.

Question to REFLECT upon while reading the CONTENT

What challenges might students with disabilities face when using online content? What accommodations might they require?

CONTENT

This lesson presents issues and suggestions of accommodations related to the use of adaptive technology and web pages. Access to computers for students with disabilities involves two major issues: access to the computers themselves and access to electronic resources such as word processors, spreadsheets, and the internet.

WEB PAGES

The Internet has rapidly become the dominant tool, combining hypertext and multimedia to provide a network of educational, governmental, and commercial resources. The Web has mushroomed in popularity because it is such a powerful and versatile medium. Much of its power comes from the fact that it presents information in a variety of formats while it also organizes that information through hypertext links.

Because of the multimedia nature of the Web combined with the poor design of some Web sites, many Internet surfers cannot use the full range of resources this revolutionary tool provides. Some visitors:

- Cannot see graphics because of visual impairments
- Cannot hear audio because of hearing impairments
- Use slow connections or older equipment that cannot download large files
- Have difficulty navigating sites that are poorly organized with unclear directions because they have learning disabilities, speak English as a second language, or are younger than the average user.
A person with an impairment of mobility may not be able to use a mouse and relies on the keyboard for web browsing. Some people use adaptive technology with their computer to access the web. A person who is blind may use a speech output system to read aloud text that is presented on the screen; this system may be composed of screen reading software and a voice synthesizer. One may not be able to use a braille output system, and although special keyboards exist, most people who are blind use standard keyboards and become touch typists.

To create resources that can be used by the widest spectrum of potential visitors rather than an idealized "average," Web page designers should apply "universal design" principles. They should consider the special needs of individuals with disabilities, older persons, people for whom English is a second language, and those using outdated hardware and software. Following universal design principles in creating a Web resource ensures that all Internet users can get to the information regardless of their abilities, their disabilities, or the limitations of their equipment and software.

The World Wide Web Consortium (W3C) develops the common protocols used on the Web to ensure interoperability and promote universal access. As Tim Berners-Lee, Director of the W3C puts it: "The power of the Web is in its universality. Access by everyone regardless of disability is an essential aspect." In 2008, W3C initiated its Web Content Accessibility Guidelines 2.0 (WCAG). These guidelines cover a wide range of recommendations for making Web content more accessible. Following these guidelines will make content accessible to a wider range of people with disabilities, including blindness and low vision, deafness and hearing loss, learning disabilities, cognitive limitations, physical disabilities, speech disabilities, photosensitivity and any combinations of these. Following these guidelines will also often make your Web content more usable to users in general.

The w3c's web accessibility initiative (WAI) has proposed guidelines for all web authors. The following suggestions are based on the WAI guidelines for web content. Follow these guidelines when developing and revising your Web pages to ensure that they are accessible to a diverse audience.

1. General Page Design

Designing a well-organized Web site helps visitors navigate through the information presented
- Maintain a simple, consistent page layout throughout your site
- Keep backgrounds simple. Make sure there is enough contrast
- Use standard HTML
- Design large buttons
- Caption video and transcribe other audio
- Make links descriptive so that they are understood out of context
- Include a note about accessibility.

2. Graphical Features

People who are blind cannot view the graphical features of your Web site. Many people with visual impairments use screen reader programs with nonstandard browsers (such as JAWS or
ZoomText) or graphical browsers with the feature that loads images turned off. Include text alternatives to make the content in graphical features accessible.

3. Use of Special Features

- Use tables and frames sparingly and consider alternatives.
- Provide alternatives for forms and databases.
- Provide alternatives for content in applets and plug-ins.

4. Web Pages Test

Test your web site with a variety of web browsers, and always test your pages with at least one text-based browser. This way you will see your web resources from the many perspectives of your users. Also view the resources at your site using a variety of computer platforms, monitor sizes, and screen resolutions. Make use of an accessibility validation site, such as WebAim’s “Wave” that performs usability diagnostics on your pages and points out elements that could be inaccessible. Testing your site is especially important if you use html authoring software to write your pages as many of these programs do not automatically include alt attributes and other accessibility features. Revise your html to make your site accessible.

SUMMARY

It is unlikely that you as a faculty member are directly responsible for creating web pages. However, it is possible that you will create web content using D2L. In order to help your students, it is important for you to be aware of the many computer access issues facing students with disabilities and the hardware and the software solutions for providing access to computers and electronic resources.

The examples of issues and accommodations presented can serve as a reference to help you recognize options when you encounter a student with a disability in your existing courses, and to assist you in the planning and design stages of creating a new course. Incorporating universal design principles into the course from the beginning reduces the need for accommodations later.

POSSIBLE DISCUSSION

What are some specific design features your department might employ when training faculty in D2L and online content to make it accessible to all students?

FURTHER INFORMATION

- Read information about the World Wide Web Consortium (W3C)
- Read information about the Web Content Accessibility Guidelines (WCAG)
- Read information about the Web Accessibility Initiative (WAI)
• Learn more about Assistive Computer Technology on UCO’s Campus
• Read information about Working Together: Computers and People with Learning Disabilities
• Read information about Working Together: Computers and People with Mobility Impairments
• Read information about Working Together: Computers and People with Sensory Impairments

This lesson has been developed in part by © 2001 DO–IT at the University of Washington where permission has been granted to copy material for educational, non-commercial purposes. The information has been edited as needed by the University of Central Oklahoma Disability Support Services’ Staff (2012) in an effort to meet UCO’s need, purpose, and intent of faculty development regarding students with disabilities.