Chapter 18
Seeing People with Disabilities as a Culture in the E-Learning Environment

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EXECUTIVE SUMMARY

Some people may be offended by the idea of viewing people with disabilities as a culture. On first consideration, this seems to go against the idea of inclusion or equal participation by everyone. In the context of e-learning, however, and what we know about the significance of cultural differences in a learning environment, viewing people with disabilities as a culture may enable us to consider the differences in the way people engage, interact and learn in a digital environment. This shift in perspective during the development phase of a project can minimize, perhaps even close the gap that often times exists as a barrier to information access.

A statement by the President's Council on Disability: "Technology for most people makes things easier. For people with disabilities, technology makes things possible."

RECOGNIZING DIFFERENCES IN THE WAY PEOPLE LEARN OR ACCEPT INFORMATION

Just as cultural differences bring diversity into the learning environment, so do the abilities and disabilities of the students and participants who will populate that environment. To build an accessible e-learning module, it is first necessary to understand the different ways people with disabilities learn or access information. A broad understanding of the different types of functional disabilities and the assistive technology that people use to interact with computers is a natural place to start.

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TYPES OF DISABILITIES

Vision Impairment (Blind, Low Vision, or Color Blind)

- A blind person will not be able to see the computer monitor, the PowerPoint, or the video and may be using Braille output or a screen reader. A person with low vision may use ZoomText or the web browser to enlarge the text on the computer monitor. Make sure your presentation can accommodate these types of assistive technology. Also consider that during a webcast, visual information such as images, charts and graphs will not be seen by participants who are visually impaired. This does not have to be a problem if you include this type of important information in the audio portion of the training. If there is no audio component, include this information in the content of the training. In other words, *do not use images alone to convey important information*.
- Color blindness affects 8 to 10% of males of European origin. If important information is conveyed by color only, such as, "All form fields in red are required" some of the audience will not see it, and consequently, be left out. *Do not use color alone to convey important information.* Use words along with color to enhance usability for everyone.
- *Low vision users require sufficient contrast* between the text, or images of text, and the background. A contrast ratio of 4.5:1 is optimum. Learn more about contrast ratio and luminosity at Gez Lemon's Juicy Studio, a tool on the AIS Accessibility Toolbar. (see Do your Homework).
- *When using video, consider audio description* to make sure that non-visual learners have access to all the information. One type of audio description is a synchronized audio file that accompanies a video or movie. In the quiet areas, a voice is describing the most important visual information such as who are the important players, place, time of day, dress, people (character information), action/movement/body-language, facial expressions, and tone of voice. Don't be afraid to use color as a descriptor. Some visual impairments are acquired later in life, so color can be very meaningful. If synchronized audio description is not available or necessary, set the stage with a text description as an introduction to the video. This can be useful for everyone, not only people with vision impairments.

Hearing Impairment (Hard of Hearing, Deafness)

- *Use captions with movies and video* so people who are deaf and hard of hearing have access to all the information. Captions are useful for others as well. If anyone is not sure exactly what was said, the information can quickly be found in the captions. It is also useful to people who have English as a second language. Search engines can find files with captions as well. In fact, you can consider search engines as blind and deaf because they can only search for textual information.

Mobility Impairment (Physical Disability)

- Mobility impairment may be caused by traumatic Injuries, spinal cord injury, diseases or congenital conditions which cause loss or damage of limbs.
- People with mobility impairments may use other ways to interact with the computer, such as: alternative keyboards, electronic pointing devices, sip-and-puff systems, wands and sticks, joysticks, trackballs,

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