Lesson 6: Vision

PURPOSE

The purpose of this lesson is to increase your awareness of the issues and strategies related specifically to accommodations for students with Visual 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 visual disabilities. By sharing and discussing course modifications with other participants, you will develop an awareness of additional strategies and applications of the issues related to accommodations for students with visual disabilities.

Questions to REFLECT upon while reading the CONTENT

What challenges might students with visual disabilities face in your course(s)? What accommodations might they require?

CONTENT

We are now concentrating on accommodations for students with specific disabilities or impairments. This lesson presents issues and suggestions for accommodations for students with visual disabilities.

Visual disabilities can be classified into two types: Low Vision and Blindness. **Low Vision** refers to students who have some usable vision, but cannot read standard-size text, have field deficits (for example, cannot see peripherally or centrally, but can see well in other ranges), or other visual impairments. **Blindness** refers to the disability of students who cannot read printed text, even when enlarged.

**LOW VISION**

What are some examples of ways low vision may affect the ability to learn? For some students with low vision, or partial sight, standard written materials are too small to read and small objects are difficult to see. Other students may see objects only within a specific field of vision, or see an image with sections missing or blacked out. Text or objects may appear blurry.

Learning via a visual medium may take longer and may be more fatiguing for people who have low vision. Some people with low vision may be able to read enlarged print for a long time period, while others may only be able to tolerate reading for a short time and require electronic/human readers or audiotaped material.
Visual abilities may also vary in different situations. For example, reduced light or strong glares may affect visual abilities during different times of the day or in different classrooms.

Students with low vision may have problems locating large-print materials, getting around in an unfamiliar setting, finding transportation, hiring readers for library work, researching reports and short articles, as well as getting recorded textbooks on time.

**Examples of accommodations for students with low vision may include:**
- Large print reading materials (e.g., books, handouts, signs, and equipment labels). Large print is defined as 16 to 18 point bold type, depending on the typeface used.
- Front row or preferential classroom seating in well-lit areas with full view of the instructor and visual aids.
- Class assignments in audiotaped or electronic formats.
- Computers with screen enlargers, optical character readers (which convert print to speech output), or speech output.
- The use of a reader or scribe for exams or class assignments.
- The use of recorders and laptop computers for note taking.
- Extended time for exams and assignments if requested.
- Verbalization of white board information.

**Examples of accommodations for laboratory or strong visual instructional content for students with low vision include:**
- Large print instructions.
- Large print reading materials that include laboratory signs and equipment labels.
- Enlarge images by connecting TV monitors to microscopes.
- Raised-line drawings or tactile models for illustrations or maps.
- Verbal description of visual aids and graphics.

**BLINDNESS**
What are some examples of ways in which blindness may affect the ability to learn?

Students who have no sight may have difficulty referring to written materials. Students who have had no vision since birth may have difficulty understanding verbal descriptions of visual materials and abstract concepts.

Consider this example: "This diagram of ancestral lineage looks like a tree." If one has never seen a tree, it may not be readily apparent that the structure of note has several lines of ancestry that can be traced back to one central family. However, students who lost their vision later in life may find it easier to understand.

Additionally, demonstrations based on color differences may be more difficult for students with blindness to participate in and understand than demonstrations that emphasize changes in shape, temperature, or texture. In some cases, the assistance of a sighted person is required in order for the student who is blind to gain access to the content of your course.
Ready access to printed materials in electronic format can allow a blind student, who has the appropriate technology, to use computers to read text aloud and/or produce it in Braille.

Some materials may need to be transferred to audio. Since it may take weeks or even months to procure course materials in Braille or audio, it is essential that instructors select and prepare their materials well before the materials are needed. Disability Support Services can help coordinate alternative formats.

During lecture and demonstration, clear concise narration of the basic points being represented in visual aids is helpful. This technique benefits other students as well.

Other examples of accommodations for blind students include tactile models and raised-line drawings of graphic materials. Disability Support Services can provide resources to help create these materials.

Adaptive lab equipment such as talking thermometers, calculators, light probes, and tactile timers can maximize access to labs for students who are blind. In addition, computers with optical character readers (OCR), speech output, Braille screen displays, and Braille printers allow students who are blind to participate in computer exercises and on-line research.

In addition, web pages used in your course should be designed so that they are accessible to those using Braille and speech output systems; graphics cannot be interpreted unless text alternatives are provided. For example, a speech synthesizer will simply say "image map" at the place where an image map would be displayed. Tables displayed as images are also problematic. Disability Support Services and Information Technology can be consulted when addressing computer access issues.

**SUMMARY**

Visual disabilities can be classified as Low Vision (having some usable vision, having field deficits, or having other visual impairments) and Blindness (being unable to read printed text, even when enlarged).

Typical accommodations for Low Vision include preferential seating, ability to record class sessions and assignments available in electronic format, verbal descriptions of visual aids, large print handouts and signage, and adaptive computer software to enlarge screen characters and images.

Typical accommodations for Blindness include: ability to record class sessions and assignments or available in electronic format, Brailed or electronic-formatted lecture notes, handouts, signs, and texts, verbal descriptions of visual aids, raised-line drawings and tactile models of graphic materials, adaptive lab equipment, and adaptive computer software with OCR, speech output, Braille screen display and printer output.
The student is your best resource for determining what accommodations are appropriate. Flexibility and effective communication between you, the student, and the Office of Disability Support Services are essential in approaching accommodations.

Disability Support Services can be consulted to coordinate production of materials using Braille, audio, tactile models, and raised-line drawings of graphic materials. In addressing computer access issues, Disability Support Services can also help coordinate with Information Technology staff. Become aware of and take advantage of the resources on your campus.

POSSIBLE DISCUSSION

While reading the Content, you considered ways in which your course does and does not accommodate a student with a visual disability. If you are/were a history professor, how could a student who is blind access a map of the United States used in your class?

FURTHER INFORMATION

- Read answers to frequently asked questions, explore case studies, or access additional resources related to low vision
- Read answers to frequently asked questions, explore case studies, or access additional resources related to blindness
- Learn more at UCO’s Disability Support Services website
- Learn more at UCO’s DSS Handbook for Faculty & Staff
- View resources for helping instructors accommodate students with disabilities in specific academic activities

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.