



DISABILITY SUPPORT PROGRAMS AND SERVICES

Quick Tips

SPECIAL EDITION
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Enlarger and magnifier aids

TEACHING STRATEGIES FOR THE BLIND AND VISUALLY IMPAIRED

You hear the "tap and swish" of a white cane coming toward your classroom door. You notice a service dog enter the room first. Your first instinct maybe "what do I do, how does this impact my instruction?" Quick Tips offers you some positive strategies that you can implement for all students and that will benefit the student who maybe blind or visually impaired.

DEFINITION

There are two main categories of visual impairments: low vision and blind. Low vision students usually are print users, but may require special equipment and materials. The definition of legal blindness covers a broad spectrum of visual impairments. The extent of these disability depends upon the physical sensory impairment of the student's eyes, the age of the student at the onset of vision impairment, and the way in which that impairment occurred.

Vision may fluctuate or may be influenced by factors such as inappropriate lighting, light glare, or fatigue. Hence, there is no "typical" vision impaired student. The major challenge facing visually impaired students in the educational environment is the overwhelming mass of visual material to which they are continually exposed in textbooks, class outlines, class schedules, whiteboards, writing, etc...

The use of film, videotapes, computers, laser disks, and television adds to the volume of visual material to which the have only limited access.

Overcoming a students' visual limitation requires unique and individual strategies based on that student's particular visual impairment and his/her skill of communication.

Source of Information: "The Mainstream Teaching of Science: A Source book", Keller et al

SPECIAL POINTS OF INTEREST:

- General Courtesy and Strategies
- Teacher Presentation Strategies
- Laboratory Strategies
- Groups and Discussion
- Testing for the VI and Blind

TECHNOLOGY AIDS THE VISUALLY IMPAIRED

♦ Equipment and Technology Support



♦ **Large Print** is defined as that which is 14 point or above in size and is one of the simplest ways of

increasing accessibility for students with a visual impairment. Research carried out by the Royal National Institute for the Blind showed that 36% of blind and 75% of partially sighted people are able to read

large print comfortably.



♦ **Braille** is a system based on sequences of raised dots to represent letters and words. It

GENERAL COURTESY

- Speak to the class upon entering and leaving the room or site.
- Call the student by name if you want his/her attention.
- Use descriptive words such as straight, forward, left, etc. in relation to the student's body orientation. Be specific in directions and avoid the use of vague terms with unusable information, such as "over there", "here", "this", etc.
- Describe, in detail, pertinent visual occurrences of the learning activities.
- Describe and tactually familiarize the student to the classroom, laboratory, equipment, supplies, materials, field sites, etc.
- Give verbal notice of room changes, special meetings, or assignments.
- Offer to read written information for a person with a visual impairment, when appropriate.
- Identify yourself by name, don't assume that the student who is visually impaired will recognize you by your voice even though you have met before.
- If you are asked to guide a student with a visual impairment, identify yourself, offer your services and, if accepted, offer your arm to the student's hand. Tell them if they have to step up or step down, let them know if the door is to their left or right, and warn them of possible hazards.
- Orally, let the student know if you need to move or need to end a conversation.
- If a visually impaired student is in class, routinely check the instructional environment to be sure it is adequate and ready for use.
- Do not pet or touch a guide dog. Guide dogs are working animals. It can be hazardous for the visually impaired person if the dog is distracted.
- It is not necessary to speak loudly to people with visual impairments.

A screen reader reads the contents of the screen aloud to a user. Usually used by blind and visually impaired people, screen readers cannot read text that is part of an image.

GENERAL STRATEGIES

- A screen reader (software) can be used to read a computer screen to a visually impaired student.
- A wide selection of magnifying devices are available that can be used by visually impaired students to assist persons in reading or working with objects that need to be observed.

TEACHER PRESENTATION STRATEGIES

- By verbally spelling out a new or technical word, you will be helping the visually impaired student, as well as other students.
- Describe, in detail, visual occurrences, visual media, and directions including all pertinent aspects that involve sight.
- Describe, in detail, all pertinent whiteboard writing.
- Modify instructions in an electronic format so they can be reviewed auditor ally or in large print format.
- Use an overhead projector, chalkboard, graphs, or slides as you would normally, but provide more detailed oral descriptions, supplemented with written text as much as possible and at least one week in advance.
- Allow student to use a tape recorder for recording class presentations.

LABORATORY STRATEGIES

- Describe and tactually/spatially familiarize the student with the lab and all equipment to be used.



- Consider alternate activities/exercises that can be utilized with less difficulty for the student, but has the same or similar learning objectives.
- Make all handouts and assignments available in the appropriate form for the student: e.g., regular print, large print, Braille, or tape depending on the students optimal mode of communication.
- Have the student with a vision impairment do a trial run on the equipment before the activity.
- Allow more time for the laboratory activities.
- Always try to keep materials, supplies, and equipment in the same places.
- Use a microprojector to help the visually impaired student to examine images from a microscope.
- Place the student and/or tape recorder an appropriate distance from the activity to permit hearing and/or the recording of results or observations.
- Provide means for the acquisition and/or recording of data in an appropriate and familiar mode to the student.
- Make equipment available that the vision impaired student can access in interpreting and understanding the results of laboratory exercises (e.g. audible readout voltmeters , calculators, talking thermometers , talking compass , magnifiers, etc.
- Use a hot plate for heating instead of bunsen burner.
- Label material, supplies, and equipment with regular print, large print, and/or Braille, as appropriate for the vision impaired student.
- Pair the vision impaired student with a sighted student. Then have the non-impaired student describe the activities and outcomes as they are observed.
- Prior to enrollment of a visually impaired student in class, obtain laboratory equipment that have adaptive outputs such as: a large screen, print materials, or various audio output devices.

DSPS Services include the production of alternate media which allows a student to "read" course materials in a format other than the traditional textbook.

GROUP INTERACTION AND DISCUSSION

- If the student is partially sighted, be sure he/she is seated where lighting is appropriate.
- Use a note taker who takes notes in the appropriate mode.
- Arrange, ahead of time, for audio book acquisition of the text or other reading materials through the Talking Book Service, Recordings for the Blind and Dyslexic, text reading systems, or audio output devices.

TESTING: refer to the policies and procedures of the Disability Support Programs and Services.





Technology Aids . . . cont'd .

- ◆ takes a long time to become fluent in Braille, and is mainly used by those people who are visually impaired when young, rather than those who lose their sight due to old age. Although the actual numbers of Braille users is small, it is a useful medium, and can also be used by deaf blind people. Diagrams, tables and other pictorial information can be produced as a tactile diagram of raised lines.

- ◆ **Magnification software.** The majority of computers currently being produced have some kind of magnification software, which can be used to view any information on the screen in the required size. Microsoft Office products Windows OS also has accessibility options whereby the resolution, color and size of the text can be changed. Apple Macintosh has similar features. Other more specialized magnification software is also available commercially.



- ◆ **CCTV Cameras** can also be used to enlarge printed text where mag-

nification software is not practicable. A CCTV camera can be used to enlarge books maps, journals etc, without the need to scan material into a computer. It is also useful for enlarging reference material that is problematic to remove from the library.

- ◆ **Specialist software.** Voice activated software is used by some visually impaired students that allows the student to dictate information to a computer. Text can be produced in the required medium



Human Support

- ◆ **Readers** transfer material from text media onto audio tape for the visually impaired student to listen to.
- ◆ **Note takers.** Some visually impaired students may require a note taker to attend lectures with them. This allows the student to concentrate on information presented in the lecture. The note taker is often an undergraduate or post-graduate student who is familiar with the topic.

- ◆ **Proctor.** A proctor may be used in exam situations. The proctor is usually a student from a related Academic Department, with an understanding of the subject matter and the terms which may be used or a Disability Support Services staff. The proctor writes only what the student speaks and does not help or advise the student on the subject matter.
- ◆ **Mobility Trainers.** A qualified mobility trainer guides the student around the College campus and surrounding area so they become familiar with the layout. Students can also be taught routes (both walking and public transport) to the College from their accommodation, and routes to any placements that may be part of their study.

◆ Adapted from: 2007 The University of Sheffield-Teaching Students with Visual Impairments
<http://www.shef.ac.uk>

