Teaching Students with Vision Loss

The Challenges
Vision loss includes a broad range of eye conditions that result in total blindness to partial or low vision that cannot be corrected fully with lenses.

Difficulties vary in type and degrees and can affect the following:
- perception of depth and distance
- night vision
- field of vision
- ability to manoeuvre
- ability to read and recognize signs and instructions
- ability to write
- ability to see colours and contrast

Consider the Following...
Most people who are “legally” blind have some degree of vision. Don’t assume they cannot see you.

Braille is used by 10 – 15% of people who are “legally” blind.
Students also use large print, electronic and recorded text.

Needs vary depending on the individual.

Assistant Devices
The following devices are used to increase or maintain a person's ability to read, write, and navigate independently.
- monocular, binocular
- digital recorders, portable Braille note-taking and video magnification devices
- computer-based screen readers and text magnifiers

Students may need to use one or more of these devices in order to take notes in class.

Service Dogs
Do not feed, touch, make eye contact or otherwise communicate with a service dog when it is in harness unless you have the owner’s permission.

On-campus Resources
OpenEd (Open Learning and Educational Support)
- Instructional Support (Advice on designing accessible courses/curricula)
- Courseware Support (Advice on designing accessible on-line courses)
- Classroom Technology and Design (Advice on designing accessible teaching spaces)
  All inquiries to OpenEd Technical Support Ext. 52530 or courseslink@uoguelph.ca
where you will be assisted or directed to the appropriate person.

Universal Instructional Design (UID)
UID is about universal thinking – consider the potential needs of all learners when designing and delivering instruction and minimize the need for special accommodations.
www.OpenEd.uoguelph.ca/uid/

Student Accessibility Services (SAS)
www.uoguelph.ca/csd/
- General Inquiries
  Ext. 56208, sas@uoguelph.ca
- Advisor, Students with Vision Loss
  Barry Wheeler Ext. 56416, bwheeler@uoguelph.ca

Library Accessibility Services
Students registered with SAS have access to computer lab/study space and accessibility support in the Library.
www.lib.uoguelph.ca/get-assistance/accessibility/library-accessibility-services

Off-campus Resources
W3C Web Content Accessibility Guidelines
List of points to check your web content for accessibility
www.w3.org/TR/WCAG/checkpoint-list.html
- Web Accessibility in Mind's 'Introduction to Web Accessibility'
  www.webaim.org/intro

Information Accessibility
The Canadian National Institute for the Blind's ClearPrint initiative:
www.cnib.ca/en/services/resources/Clearprint/Pages/default.aspx
- WebAIM's Rich Media Accessibility tutorials: www.webaim.org/articles/#html

On-campus Resources
OpenEd (Open Learning and Educational Support)
...
in Your Classroom

- Provide preferential seating close to the front of classroom.
- Warn student if you dim lights or turn them off as it may be difficult for them to adjust to abrupt changes.
- Record or provide lectures notes, handouts made from poor quality photocopies of books or articles
- Avoid touching the student without letting them know first, unless it is an emergency
- Avoid highlighting or underlined readings that will be difficult and time consuming to transcribe
- Provide clean copies of books and articles when placing material on Library eReserve.
- Provide text transcripts of PowerPoint notes, including descriptions of any visual materials in the slides.
- Check with students who have low vision regarding accessibility of PDF documents and follow instructions provided by Adobe when creating PDF's.
- Provide lab instructions in electronic format if requested.
- Identify the arrival or departure of others, name and introducing them if they do not do so themselves.

...Learning Materials

- Make syllabi, handouts, short assignment sheets and reading lists available in electronic format (e.g., txt or rtf) or large print before class so the student can use the material at the same time as other students.
- Provide lab instructions in electronic format if requested.
- Provide adaptive lab equipment such as talking thermometers, calculators, light probes and, tactile timers.
- Replace glass with plastic where possible.
- Assign a lab partner.
- Allow extra time to complete lab work.
- Use raised drawings or tactile models for illustrations.
- Equip computers with adaptive software that supports screen reading and text magnification programs (e.g., Jaws or Zoomtext). Identify computers that have adaptive software and ensure other students yield to student with vision loss.
- Provide lab instructions in electronic format if requested.
- Arrange lab equipment so that it is easily accessible.
- Label all equipment using large print and braille.
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- Connect TV monitor to microscope to enlarge images.
- Give oral lab instructions of demonstrations and visual aids.
- Provide lab instructions in electronic format if requested.
- Provide adaptive lab equipment such as talking thermometers, calculators, light probes and, tactile timers.
- Replace glass with plastic where possible.
- Assign a lab partner.
- Allow extra time to complete lab work.
- Use raised drawings or tactile models for illustrations.

...in Computer Labs

- Equip computers with adaptive software that supports screen reading and text magnification programs (e.g., Jaws or Zoomtext). Identify computers that have adaptive software and ensure other students yield to student with vision loss.
- Provide accommodation such as an alternate assignment if your software applications are not accessible to screen reading software.
- Avoid leaving student alone in the middle of a room. Show them a chair or guide them to stand by a wall, door or a piece of furniture to maintain orientation.
- Avoid walking away without saying goodbye.
- Avoid low light levels, shadows, glare, gloss finishes, mirror or glass surfaces.
- Avoid drawing attention to the student.
- Avoid touching the student without letting them know first, unless it is an emergency.
- Avoid image-only PDF files scanned from paper documents or hand-written notes since screen readers are not able to read them.
- Avoid handouts made from poor quality photocopies of books or articles.
- Avoid highlighted or underlined readings that will be difficult and time consuming to transcribe.

...in Wet Labs

- Take student on a tour of the lab.
- Discuss safety concerns including auditory lab warning signals. Modify safety procedures. Replace glass with plastic.
- Visual warnings should be paired with audible alarms.
- Keep aisles and emergency exits clear.
- Ensure student knows where safety equipment is in the lab and label using large print and braille labels.
- Arrange lab equipment so that it is easily accessible.
- Label all equipment using large print and braille.
- Connect TV monitor to microscope to enlarge images.
- Give oral lab instructions of demonstrations and visual aids.
- Provide lab instructions in electronic format if requested.
- Provide adaptive lab equipment such as talking thermometers, calculators, light probes and, tactile timers.
- Replace glass with plastic where possible.
- Assign a lab partner.
- Allow extra time to complete lab work.
- Use raised drawings or tactile models for illustrations.

Exams

- Allow extra time to transcribe and process test questions.
- Consider allowing students to turn in exams electronically.
- Contact SAS, Ext. 56208 for assistance.

Fieldwork

Ask student how they might be able to do specific aspects of field work.
Attempt to include students in fieldwork assignments. If not possible suggest an alternative assignment.

Physical

Describe layout of room, its furniture, principal features, location of other people by using clock face, 1 o'clock, 4 o'clock, etc.
Seat the person, by gently placing their hand on the back of the chair.
When directing to an object (e.g. water glass), gently place your hand under theirs and move your hand towards the object.
After contact is made, slide your hand away, allowing them to locate the object.
Do not pick up or put it in their hand. You may need to steady the object.
When planning a route or guiding the student, ensure there is sufficient width for them to safely find their way.
Offer assistance with layout, visual prompts.

...when Communicating

Use student's name so they know you are talking to them. Repeat their name throughout the conversation so they know you are speaking to them not others present.
Identify yourself.

Guiding a Student who has Vision Loss

- Ask the student if they would like help.
- Let them take your arm; do not take theirs.
- Walk at their pace but a half step ahead.
- Pause at stairs or curbs to warn that a change is coming. They will feel a change in height of your elbow.
- Ask if you should describe major obstacles or changes in direction.
- If a service dog is used, ask the handler where you should walk.
- Identify the arrival or departure of others, name and introducing them if they do not do so themselves.
- If giving directions, be precise, clear and specific. E.g., “on your left” or “in front of you”.

Avoid...

- leaving student alone in the middle of a room. Show them a chair or guide them to stand by a wall, door or a piece of furniture to maintain orientation.
- walking away without saying goodbye
- low light levels, shadows, glare, gloss finishes, mirror or glass surfaces
- drawing attention to the student
- touching the student without letting them know first, unless it is an emergency
- image-only PDF files scanned from paper documents or hand-written notes since screen readers are not able to read them
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