ICT SUPPORT

Using ICT to support visual impairment

All pupils expect to be able to use a computer as a communication tool – to access information, to record their ideas and to support their creativity. Having a visual impairment need not be a barrier, as there is a range of support from simple accessibility tools to specialist software and hardware that can enable learners to access the curriculum and communicate. This leaflet lists sources of information on how ICT can help, and how to use specific items of software and hardware.

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WHERE TO START

If you want to know more about the types of visual impairment and the range of technology available, you will find useful information on these websites:

The RNIB has wide-ranging information on visual impairment and factsheets covering technology available for visual impairment.
http://www.rnib.org/xpedio/groups/ public/documents/publicwebsite/public _rnib002959.hcsp

AbilityNet has a factsheet 'Vision impairment and computing' that introduces the major approaches to making a computer accessible for someone with visual impairment.
http://www.abilitynet.org.uk/content/ factsheets/pdfs/Vision%20Impairment %20and%20Computing.pdf

SET-BC in Canada has a wide range of support materials including information, tutorials, videos and presentations on software to support visual impairment.
http://www.setbc.org/setbc/vision/ altvi.html

Inclusive Technology has information and strategies on teaching learners with a visual impairment, and a series of training units on supporting individual needs, in which Units 9 and 10 cover ICT and impaired vision.
http://www.inclusive.net/resources/ units/units.shtml

SOFTWARE

Standard accessibility tools
There is a whole range of accessibility options in computer operating systems, so you can select text size and background colour, mouse size and speed, and speech support options to suit limited vision.

AbilityNet's 'My Computer My Way' looks at the many ways you can make your keyboard and mouse, Windows, the internet and your favourite applications suit a learner's needs.
http://www.abilitynet.org.uk/myway/

Microsoft has a tutorial on using the Windows magnifier.
http://www.microsoft.com/enable/training/windowsme/maglevel.aspx

The Apple site has an introduction to the accessibility options for Mac users.
http://www.apple.com/accessibility/vision/

http://www.becta.org.uk/cap

Magnification software

For many learners, the general accessibility options will not be suitable, and they will need the support of screen magnification software. This enables users to magnify the screen (usually only part of it) up to 16 or even 32 times and select text and background colours to suit. Well known software packages include Lunar, Zoomtext and MAGic.

The RNIB has information on screen magnification and the different methods used to magnify all or part of a computer screen. It also includes information on large monitors, lighting and standard enhancements to the computer screen.
http://www.rnib.org/xpedio/groups/public/documents/PublicWebsite/ public_rnib002982.hcsp

The University of Edinburgh has a comparison of the features of MAGic and Zoomtext.
http://www.ucs.ed.ac.uk/disability/project/reports/screenmagnifier.doc

For a step-by-step tutorial on using Lunar see the US National Library for the Blind.
http://atp.nlb-online.org/Lessons/unit6/unit6.5/p_01.php

AccessWorld has a review of LunarPlus.
http://www.afb.org/afbpress/pub.asp?DocID=AW010305

Tutorials for Zoomtext: the Centre for Assistive Technology at the University at Buffalo has a comprehensive range.
http://cat.buffalo.edu/refreshablebraille/video/zoomtext.php

Screenreaders

Learners with very poor, or no vision, will need screenreading software that reads aloud all text on the computer screen. Speech, pitch and volume can be altered, and the software will also read aloud text as it is keyed in. Well known screen readers include JAWS, Window-Eyes and Hal.

The RNIB information sheet on screenreaders explains how speech output is obtained from a PC and describes some of the common features of speech systems.
http://www.rnib.org/xpedio/groups/public/documents/ PublicWebsite/ public_rnib002983.hcsp

Tutorials: a range of tutorials for various screenreaders with different operating systems can be downloaded from the American Foundation for the Blind.
http://www.afb.org/ProdBrowseCatResults.asp?CatID=41

For a comparison of the features of JFW, Window-eyes and Supernova, see the handout prepared for the Accessing Higher Grounds conference in 2004.
http://www.accesstojobs.com/screen%20reader%20comparison.doc

JAWS

To find out more about JAWS, there is an overview from the supplier, Freedom Scientific.
http://www.freedomscientific.com/fs_products/software_jawsinfo.asp
You can download a free demo version from Freedom Scientific too.
http://www.freedomscientific.com/fs_downloads/jaws.asp
The National Library for the Blind have a step-by-step tutorial.
http://atp.nlb-online.org/Lessons/unit5/p_00.php
ATTO provide a tutorial designed for a sighted trainer to introduce a blind user to JAWS.
http://atto.buffalo.edu/registered/Tutorials/jaws/index.php

Hal

Dolphin Computer Access, suppliers of Hal, has information on its use.
http://www.dolphincomputeraccess.com/products/hal.htm
The site also provides downloadable tutorials.
http://www.dolphincomputeraccess.com/support/v6_tutorials.htm

Window-Eyes

You can find out about Window-Eyes and download a demo version from its supplier, GW Micro.
http://www.gwmicro.com/Window-Eyes/

HARDWARE

CCTVs

A Closed Circuit TV system can enable users with low vision to view text, pictures, their own handwriting and even objects. The RNIB information sheet on CCTV and video magnifiers describes how they can be used as a reading and writing aid.
http://www.rnib.org/xpedio/groups/public/documents/PublicWebsite/public_videomag.hcsp

Braille

Electronic Braille display: learners who are blind and normally use Braille can read onscreen text via an electronic Braille display that is placed under a computer keyboard. Find out more from the RNIB.
http://www.rnib.org/xpedio/groups/public/documents/PublicWebsite/public_rnib002971.hcsp

Producing Braille: you can produce Braille from a computer, whether it's a website, email or text created by the learner. You need Braille translation software and either an embosser or special paper. See the RNIB sheet, 'How do I produce Braille?'.
http://www.rnib.org/xpedio/groups/public/documents/PublicWebsite/public_rnib002980.hcsp

Notetakers: for information on notetakers including Braille and QWERTY keyboard notetakers, see the RNIB information sheet.
http://www.rnib.org/xpedio/groups/public/documents/PublicWebsite/public_rnib002977.hcsp
There is tutorial on using Braillenote on the CAT website.
http://cat.buffalo.edu/refreshablebraille/video/braillenote.php

COURSES AND TRAINING

The RNIB runs courses for teaching assistants, early years workers and for those wishing to learn Braille.
http://www.rnib.org/xpedio/groups/public/documents/publicwebsite/public_othercourses.hcsp
They also publish a factsheet on developing keyboard skills.
http://www.rnib.org/xpedio/groups/public/documents/PublicWebsite/public_rnib002966.hcsp

AbilityNet has a factsheet on vision impairment and touch typing that explains why touch typing is such a useful skill for visually impaired people, and a range of typing tutors to support blind and visually impaired learners.
http://www.abilitynet.org.uk/content/factsheets/pdfs/Vision%20Impairment%20and%20Touch%20Typing.pdf

BCAB (The British Computer Association of the Blind) operates a Trainer Certification Scheme.
http://www.bcab.org.uk/btcs/atfc-handout.htm

Online communities: if you would find it useful to join a free online forum of educationalists working with pupils with visual impairment, you can join VI-forum.
http://lists.becta.org.uk/mailman/listinfo/vi-forum

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