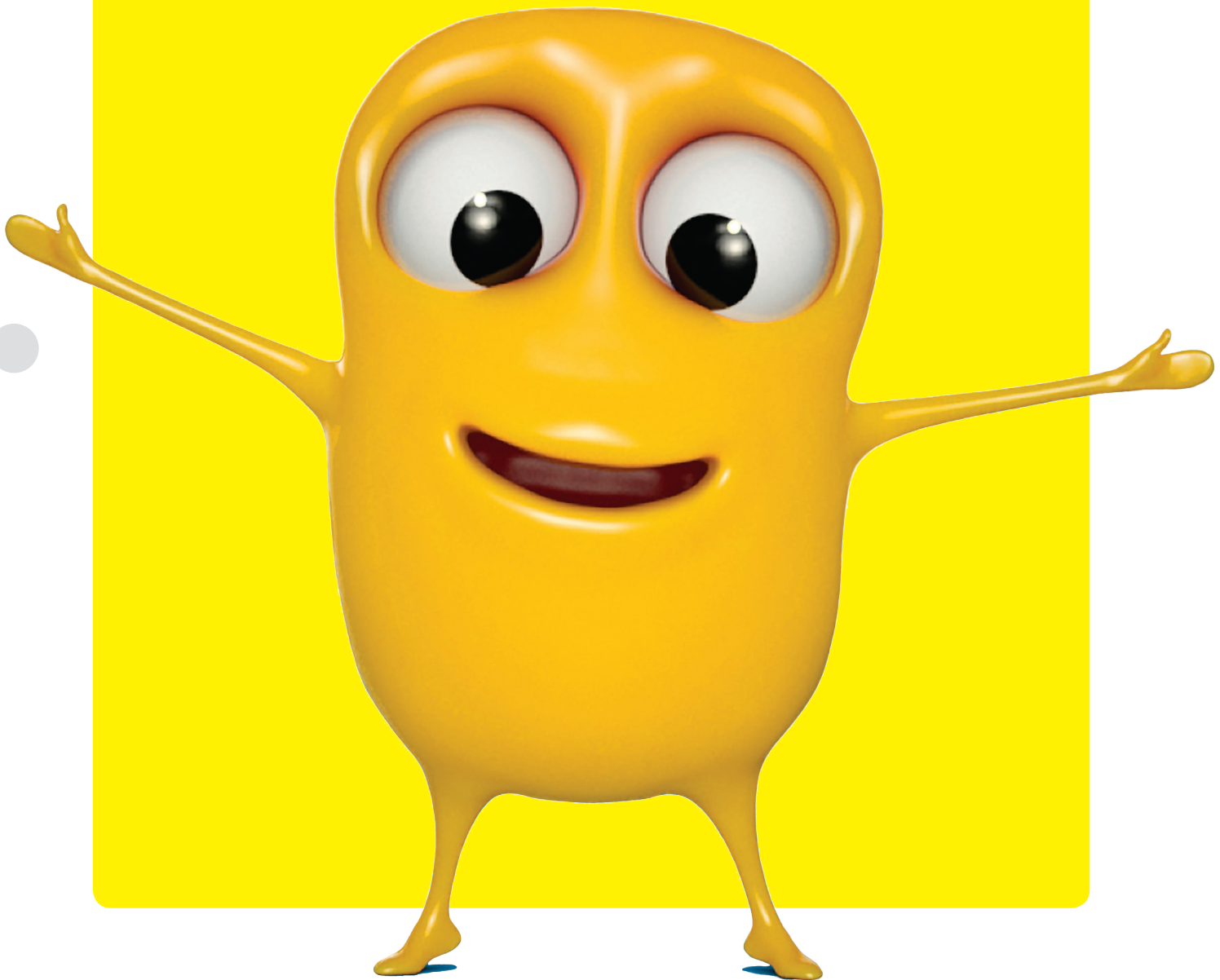


Tips for teaching ICT to visually impaired students



Why adapt lessons for visually impaired (VI) students?

This 90-second video youtu.be/O7j4_aP8dWA demonstrates how much learning is visual and how much audio description is required to make content accessible. With a few adaptations, VI students can participate fully, record their ideas and learn independently.

General tips

- Always speak to students about what would best help them and how their needs might change over time. They are the experts of their own sight condition and can help you work out the best solution.
- Download **General tips for teaching visually impaired students** from www.macularsociety.org/teaching for introductory information including lighting; emotional support; formatting documents; assistive technology; techniques such as hand-over-hand guiding and further sources of information that have been used to create these resources.

Strategies for adapting ICT lessons

Teaching strategies in the classroom

Many VI people depend on ICT as a tool for daily living. Teachers should be aware of what ICT can

do to help overcome sight loss but also how to make use of ICT in their teaching to best suit the VI student's needs. The following points can help make the classroom more user-friendly for VI students.

- Avoid screen glare. Turn brightness down, but not so far that the student can't see the information. Check with them what is the most comfortable level of light.
- Have individual profiles when using computers or tablets so a VI student's accessibility settings are saved each time they log in.
- Use mobile devices which include a zoom feature so information can be displayed at the best size for the visually impaired student.
- Create a bank of mp3 files using texthelp Read&Write to give spoken instructions on how to build pages or write code. Small chunks of information are best – around three minutes each.
- Use software such as Evernote to capture audio recordings and play them back later.
evernote.com.

Assistive Technology (AT)

AT can allow a VI student to increase their access to information. Making small changes could make a huge difference to a VI student. The following items are for use by individuals, or in the wider classroom.

- Use the computer's Ease of Access options to increase the size of the mouse pointer, make icons bigger and resize fonts – then save the settings as default. But be careful, some changes are not always helpful!
- The ACE centre also has a series of downloadable large cursors.
acecentre.org.uk/large-pointers

Hardware

- SuperNova (from £355) is a screen magnification tool specifically designed for the visually impaired. Read the Inclusive Technology factsheet:
www.inclusive.co.uk/dolphin-supernova-p6360
- Microsoft Comfort Mouse 4500 enables a student to zoom at will and find a location
www.amazon.co.uk/d/Keyboard-Mouse-Sets/Microsoft-4FD-00003-Comfort-4500/B00336S2QM
- Coloured overlays for students with Irlen Syndrome and dyslexia can make a difference in visual perception for VI students.
www.thedyslexishop.co.uk/coloured-overlays.html?learning_difficulties=143

- Keyboard stickers – high contrast black on yellow letter stickers easily make any keyboard accessible.
[www.inclusive.co.uk/product-list? Text= keyboard%20stickers](http://www.inclusive.co.uk/product-list?Text=keyboard%20stickers)
- CCTV can enhance printed text and diagrams.
- Talking pens with programmable dots allow students to access worksheets
- Mobile technologies which support pinch-to-zoom, including the iPad Mini, iPad Air 2, iPad Pro, Android devices and Windows tablet PCs (Surface) allow students to expand information for clarity and position.

Software

- ReCiteMe allows the user to tell any browser to speak or zoom into any part of the screen.
www.reciteme.com/
- Text speech readers such as NDVA enable the student to hear instructions.
www.nvaccess.org/download/
- Speech recognition software enables students to enter numbers and text.
shop.nuance.co.uk
- Screen reader software such as Guide from Dolphin.
yourdolphin.com/guide

- Speech recognition software like Dragon Dictate Naturally Speaking allows the user to input speech into text and have it read back to them.

www.nuance.co.uk/index.htm

- Texthelp Read&Write is a toolbar that school networks can install to give students a range of options to write, display, hear and record text.
- Clarospeak is a text-to-speech toolbar that works across all applications.
- DesktopZoom.
users.telenet.be/littlegems/MySoft/DesktopZoom/Index.html
- Display tools: large TV screens or interactive boards may be enough but screen-sharing technologies enable teachers to share content directly to students' screen, so they can respond. Try DisplayNote, Bridgit (SmartNotebook) or AB Tutor – and for mobile device sharing, Reflective app and airplay are useful.
- Flipped classroom tools such as NearPod and Padlet allow all students to participate in real time, irrespective of disability.

Useful apps

- Book Creator (iOS/Android/PC) supports

pinching to enlarge and move images.

<https://bookcreator.com/>

- Magnifying Glass (iOS - free) provides screen magnification with a flashlight.
itunes.apple.com/gb/app/magnifying-glass-light-digital-magnifier-flashlight/id406048120?mt=8
- MD_evReader (iOS - free) enlarges pre-loaded classic books and scrolls like a ticker tape across the screen for VI users.
itunes.apple.com/us/app/md-evreader/id602074340?mt=8
- TapTapSee (iOS) uses the camera to recognise objects and tell you what they are.
itunes.apple.com/us/app/taptapsee-blind-visually-impaired-camera/id567635020?mt=8
- VisionAssist (iOS) uses the camera as a magnifier.
itunes.apple.com/gb/app/visionassist/id502356279?mt=8
- Claro ScanPen Plus (iOS/Android) provides printed text to speech at a swipe of the screen.
<https://www.claro-apps.com/claro-scanpen/>
- Claro Speak (iOS) can scan text and then edit it, and read it back to the student itunes.
[apple.com/gb/app/clarospeak-plus/id845128025?mt=8](https://itunes.apple.com/gb/app/clarospeak-plus/id845128025?mt=8)

In this series:

- **General tips** for teaching visually impaired (VI) students
- Tips for teaching **art** to VI students
- Tips for teaching **design technology** to VI students
- Tips for teaching **geography** to VI students
- Tips for teaching **history** to VI students
- Tips for teaching **ICT** to VI students
- Tips for teaching **literacy** to VI students
- Tips for teaching **mathematics** to VI students
- Tips for teaching **music** to VI students
- Tips for teaching **science** to VI students
- Tips for teaching **sport** to VI students
- Tips for VI students on **school trips**

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