

ICT in Dyslexia Friendly Schools

This document is adapted from a Powerpoint presentation.
The notes from the presentation are added to each page in black.

If it's right for the dyslexic student, it's right for all students!

All the technology needed is potentially there.

- If it's right for the dyslexic student, it's right for all students; almost a truism, but providing a multisensory learning environment, catering for different learning styles provides a stimulating learning environment for ALL learners.
- All the technology needed is potentially there.
- Vast range of technological solutions . Both hardware and software can cater for most needs, but they do need to be in place. Learners and their supporting teachers and carers need to know how to use it and how to manage its use.

The Dyslexia Friendly School

- Assesses and reviews the individual needs of each dyslexic pupil.
- Ensures ALL staff are aware of these needs and strategies.
- Ensures suitable equipment and support are in place.
- Expects all students to acquire keyboard skills.
- Fosters the ethos that using support technology is 'OK', even 'cool'.
- Provides in-house training and support.

The Dyslexia Friendly School :

Assesses and reviews the individual needs of each dyslexic pupil, so that suitable support is provided and it needs to be regularly reviewed, so that it stays appropriate.

Ensures ALL staff are aware of these needs and strategies, so they can build on the support, not 'fight' it.

Ensures suitable equipment and support are in place. To be effective, the support needs to be easy to implement. A short spurt of initial intensive training pays off in the long run.

Efficient keyboarding should be seen as an essential life skill for all pupils. They do not need to be copy typists, but should be able to type as fast as they think.

Fosters the ethos that using support technology is 'OK', even 'cool'. If it is to work, it should be seen as essential for the particular child, as glasses or a hearing aid are for sensory support. Any teasing or bullying by other children or teachers should be nipped in the bud. The child's expertise in using ICT should be recognised and praised, which will improve confidence and self esteem.

Provides in-house training and support: Dyslexia Support Teacher and SENCo, plus ICT Co-ordinator or Technician will be involved in initial assessment of need, but essential that LSA and parents are trained early on in providing support. Other teachers and support staff need to be aware of what the technology can do for the student and be sensitive to how their support is needed in getting printouts of work, providing wordlists for new topics ahead of the lessons and facilitating provision of homework details.

Training

For dyslexic students to benefit from using ICT there must be focussed training for :

- Specialist Dyslexia Teacher / SENCo.
- Class Teachers (Primary).
- Subject Teachers (Secondary).
- Learning Support Assistants /Technicians.
- Newly Qualified Teachers.
- Students in Initial Teacher Training.

For dyslexic students to benefit from using ICT there must be focussed training for :

Specialist Dyslexia Teacher / SENCo ; they can provide brief info/checklists for each pupil of strategies they are using, including no-nos, like not making a dyslexic child read unprepared work out in front of the class. Such lists are really helpful when a teacher takes over a new class and for supply teachers.

Class Teachers (Primary) and Subject Teachers (Secondary) need to know what is expected of them. Providing lists of new topic words ahead of lessons / making worksheets available as text files for use in talking wordprocessors/ making allowances for homework tasks / allowing the use of alternative means of recording work.

Learning Support Assistants /Technicians, if trained and given preparation time, are a vital cog in making the support work; trouble-shooters if something goes wrong; and collectors and collators of information that the student needs to use the technology and provide recorded evidence of work.

Newly Qualified Teachers may need help to recognise that adaptations they make for dyslexic pupils will enhance their teaching materials for all pupils.

Students in Initial Teacher Training: more input on supporting SEN is needed, especially strategies for coping with children who have problems accessing written text.

How can ICT help?

- Provides multisensory feedback.
- Easy to develop strategies to provide individual support tools.
- Facilitates a more independent way of working.
- Raises confidence, self-esteem and improves attitude and behaviour.

Provides multisensory feedback. Most important is the text-to-speech facility provided by a talking wordprocessor or screen reader, especially when also supported by visuals or animated actions, that will allow a poor reader to access information .

Easy to develop strategies to provide individual support tools; talking worksheets or textbook pages via a talking wordprocessor, a recorder, camera etc can provide alternative means of accessing and recording work.

Facilitates a more independent way of working. If the child can hear written text and re-visit it as frequently as needed, it can begin to work alone, without needing a velcroed LSA.

Raises confidence, self-esteem and improves attitude and behaviour. A lot of disruption in class is caused when child cannot read intended work or write down own ideas; leads to calling out / acting the clown for attention etc and these are ploys to mask low self esteem. Once these children feel they *can* do some work and have a positive contribution to make, behaviour tends to improve.

How is this achieved?

This can be done by using the technology to provide :

- Personal, appropriate technology
- Support for reading and writing
- Alternative ways of recording work
- Means of planning and organising work

This can be done by using the technology to provide :

Personal, **appropriate** technology; the needs must be carefully assessed and reviewed; just giving a laptop with no training and no support, is asking for it to be left in the cupboard!

Support for reading and writing: see below.

Alternative ways of recording work: see below.

Means of planning and organising work: see below.

Support for reading(1)

ICT can provide:

- Talking text in any subject area.
- Multisensory support.
- Facilitation of greater independence.
- Reduction in the need for misbehaviour.

If the child has access to a talking wordprocessor and /or screen reader, it can have difficult content read out. This is specially significant in different subject areas where there is specific technical content /vocabulary.

Seeing and hearing text, plus visual support from graphics, makes content more accessible and easier to understand . This in turn, helps the child to work more on its own and as it has a better chance of understanding the material, there is more likely to be focussed work and less need to misbehave or cause disruption in lessons.

Support for reading(2)

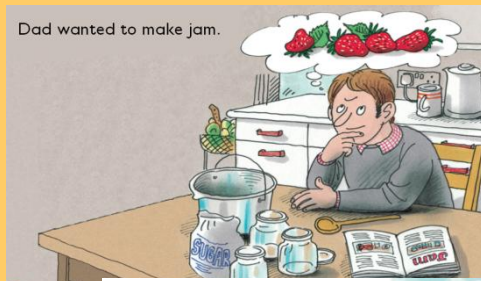
- Materials can be provided on preferred pastel coloured paper for worksheets / printouts
- Greater independence through reading:
 - Talking books.
 - Talking textbooks.
 - Talking worksheets.
 - Talking web pages.

Black text on bright white paper can be very hard to read for many dyslexic (and other 'normal' learners with some level of scotopic sensitivity). Providing cream, buff or pastel coloured paper for worksheets and printouts will improve learning environment for all children.

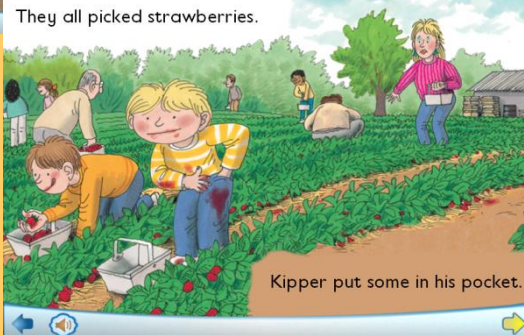
If the dyslexic child can highlight text on the screen, difficult individual words, phrases, even whole paragraphs can be read aloud. Often their reading skills are patchy and if there are too many unrecognisable words, they lose the thread of the text they are reading and lose confidence and interest in the activity; it is comparable with anyone learning a new language, when you can guess at a few unknown words from the context, but lose heart if there are too many unknowns.

Talking books

Dad wanted to make jam.

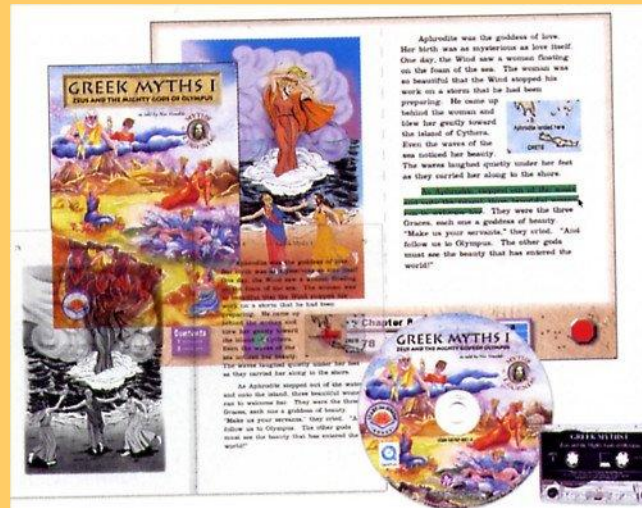
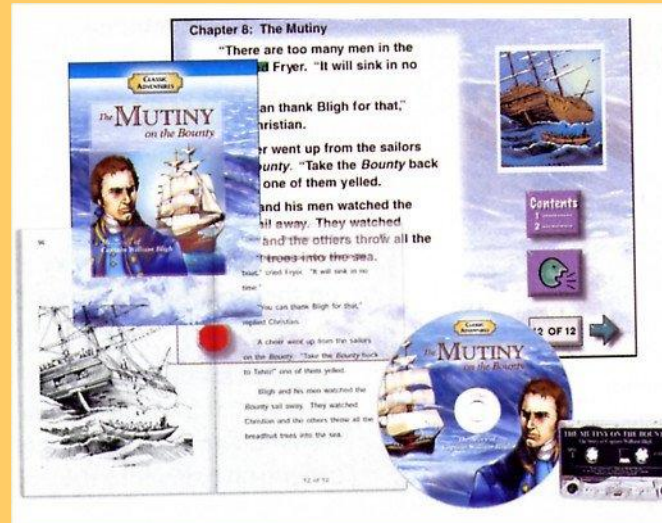
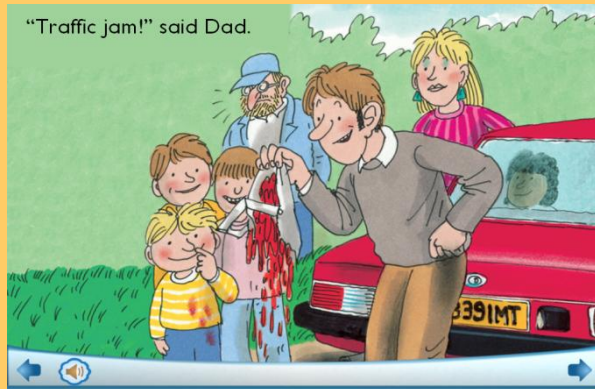


They all picked strawberries.



Kipper put some in his pocket.

"Traffic jam!" said Dad.



There are many talking books from a range of publishers, that can be read on a computer or some form of digital recorder. These examples are from the Oxford Reading Tree (www.cricksoft.com) for early readers and the Start to Finish series (www.donjohnston.co.uk) for older learning readers.

These are some sources of other talking books:

www.talkingbooks.co.uk

www.travellerstales.co.uk

www.audible.co.uk

www.play.com

www.listening-books.org.uk

www.donjohnston.co.uk

www.heinemann.co.uk/rapid

www.inclusive.co.uk

www.jollylearning.co.uk

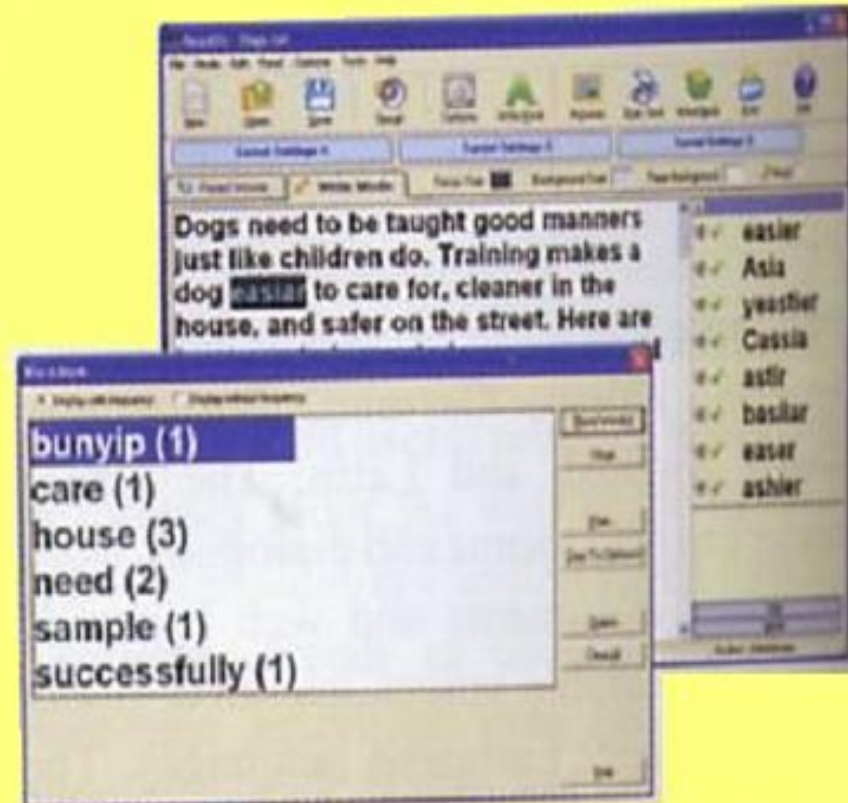
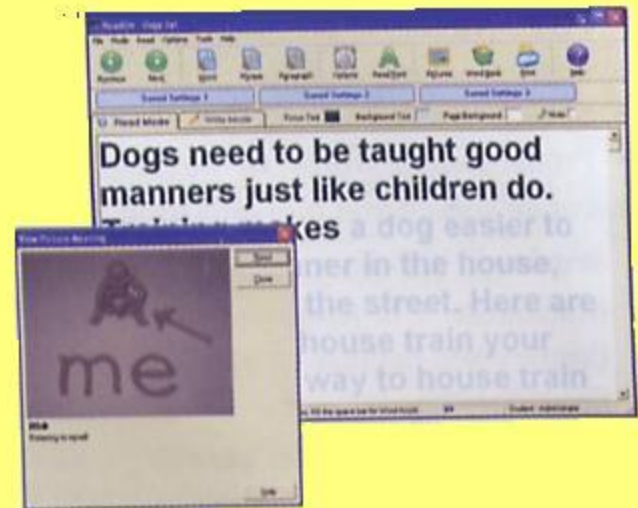
www.carronpracticals.co.uk

Sections of textbooks can be scanned into a computer and converted to text-to-speech files that can 'read' on digital recorders, e-books or a Classmate. Using headphones allows the child follow the text book, but listen to the text without disrupting other learners.

Read On (www.inclusive.co.uk) is an easy tool for LSAs or parents to use to prepare text before the lesson.



Creating talking
books and
textbooks



Support for reading(3)

The dyslexic can :

- Read any text with a **Screen reader**
- Get speech feedback from a **talking wordprocessor**
- Get visual feedback from **rebus support**

These are commercial screen readers that have a varying amount of other support features:

Claro (Clarosoft).

SpeakOut (Sensory Software).

Talkback.

Word Read.

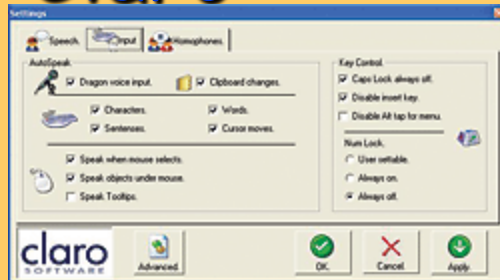
Read and Write (Text Help!).

Zoomtext.

There are also simple screen readers that are freely downloadable, but usually require the text to be copied and pasted into a reading window.

Reading for Life: Screen readers

Claro



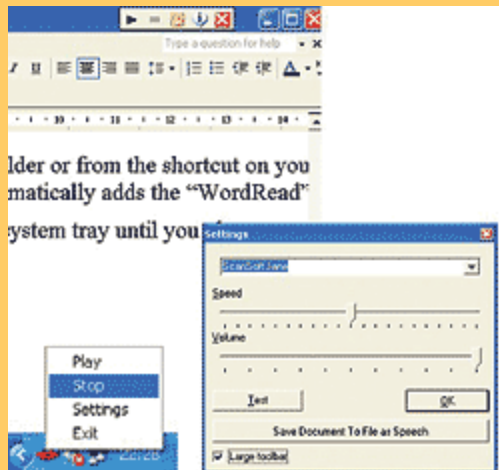
SpeakOut



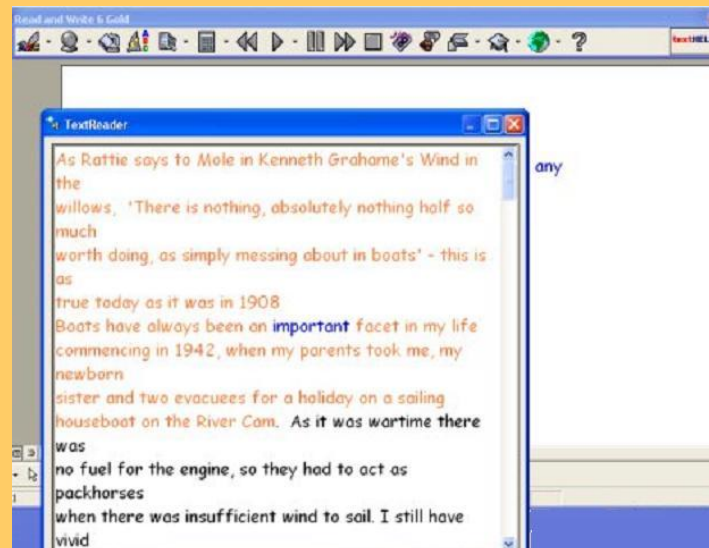
Talkback



Word Read



Read and Write



Zoomtext



Learning to read with rebus support



This shows an add-on program to SymWriter(www.widgit.com), where the user can highlight any text on the web and have it spoken, or if needed, it can be converted to a full rebus version.

Many dyslexics see words as pictures, so using an established rebus system allows them to associate an image with a word. This is especially useful for homonyms like here : hear, there:their: they're .

A rebus wordprocessor like SymWriter or Communicate in Print is useful for early reading and writing . Even older users benefit by using it for the early editing process, but remove the rebuses for the final printout.

Support for reading(4)

The dyslexic can :

Work discreetly with a **portable player with headphones**

- Mp3 / iPod / Digital recorder

- E-book

- Reading pen

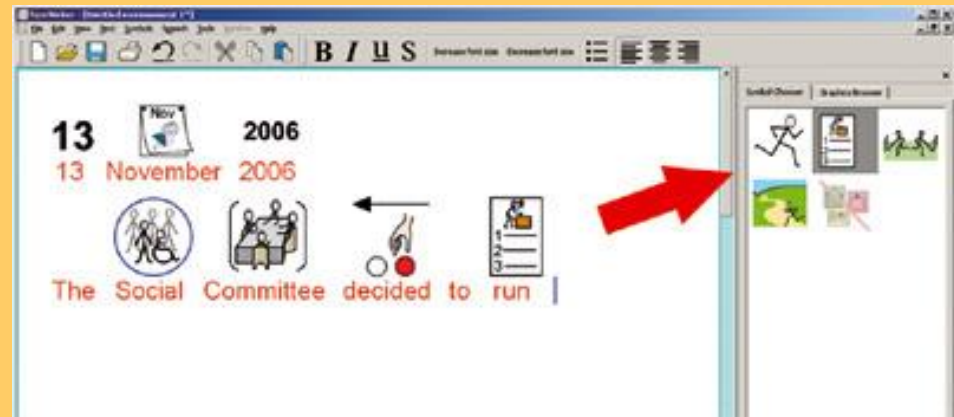


Older dyslexics do not want to stand out from the norm, but using devices like these (www.dyslexic.com), they can begin to have more control over their learning.

Support for writing(1)

ICT provides:

- Access to regular editing / re-editing.
- Bypasses handwriting problems.
- Speech feedback whilst writing.
- Rebus support whilst writing.



www.cricksoft.com

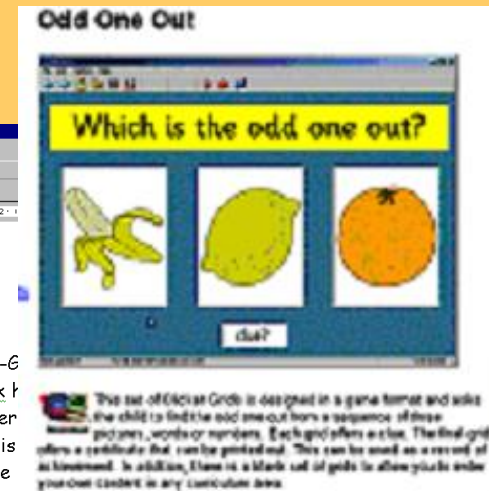
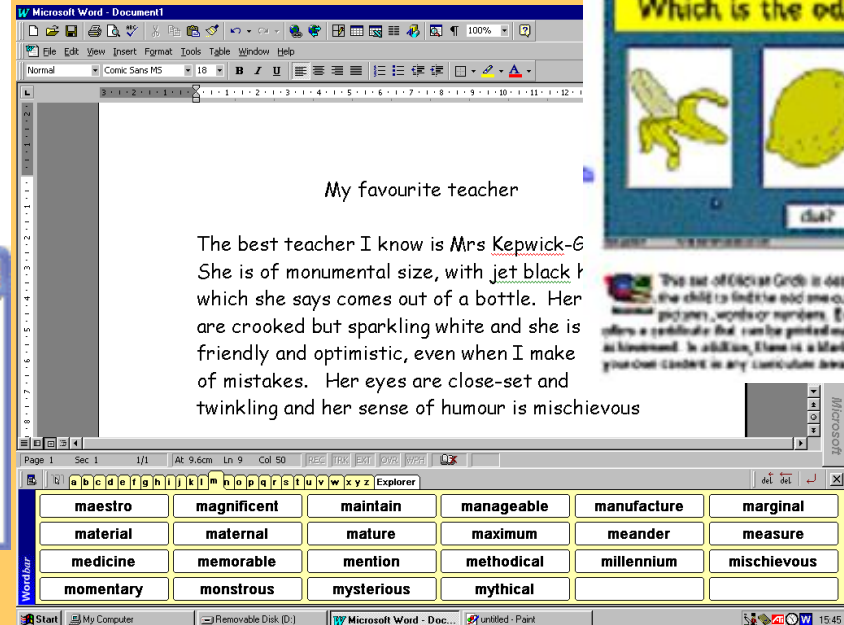
www.donjohnston.co.uk

www.inclusive.co.uk

www.widgit.com

Support for writing(2)

- Talking on-screen wordbanks
spellchecking
dictionary
thesaurus



Clicker / Write Online / Wordbar www.cricksoft.com
Write Outloud / Co Writer www.donjohnston.co.uk
Sym Writer / Communicate in Print www.widgit.com

Coastal Landscapes

The landscape on the coast is the result of wave action. Waves erode the coastline and transport sand, pebbles and mud. The sediment is broken down by attrition into smaller particles and moved along the coast. Cliffs, caves, arches, stacks and wave-cut platforms are caused by wave erosion. A beach is a landform caused by deposition.

Cliffs

Cliffs are common coastal features. They are formed by abrasion. The sediment carried by the waves scours the rock and makes a notch at the base of the cliff. The rocks collapse into the sea and the cliff retreats inland. Steep cliffs are formed where the rocks are hard and more resistant. Gently sloping cliffs are formed where the rock is softer and erodes more easily.



Caves

Caves are found at the base of cliffs. They form where the rock is weak, for example along joints. The joints are enlarged by erosion and form a cave. On a headland, a cave may form on both sides. As erosion continues, the caves join up and form an arch. Eventually the arch collapses and a stack is formed.

Prediction

- 1 for
- 2 found
- 3 form
- 4 four
- 5 food
- 6 forms
- 7 formed
- 8 following
- 9 followed
- 0 force

Keyboard Options

- ☒ Numeric keypad
☐ Number keys

Predic... Co... Notes

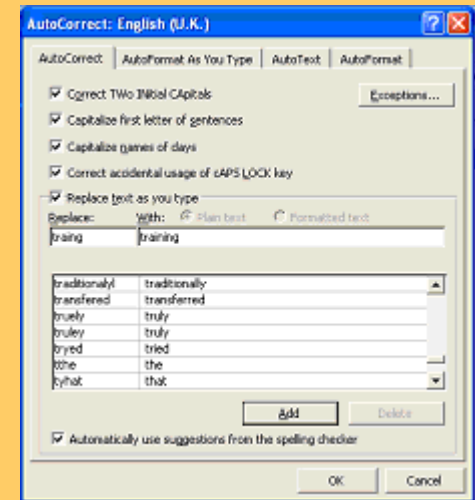
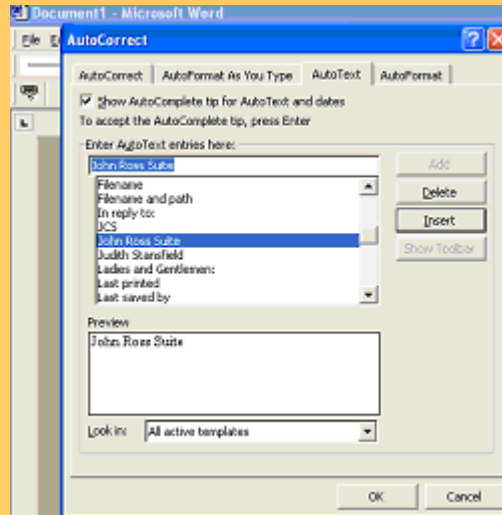
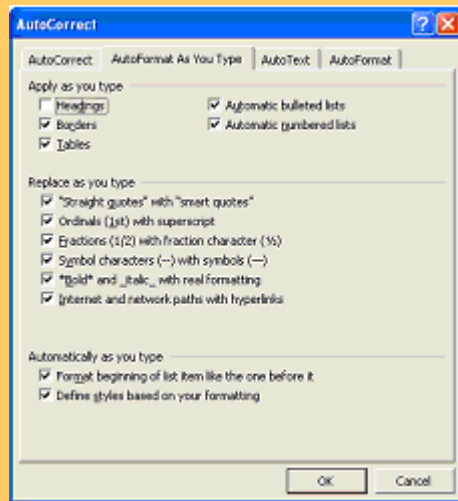
Landforms Beaches Waves Flooding Pollution Examples

abrasion	arch	bar	bay	cave	chimney
cliff	cliffs	coastline	erosion	estuary	headland
high water mark	inlet	landslides	low water mark	notch	pillars
spit	stack	strata	undercutting	wave cut platform	waves

Support for writing(3)

Auto-correction tools:

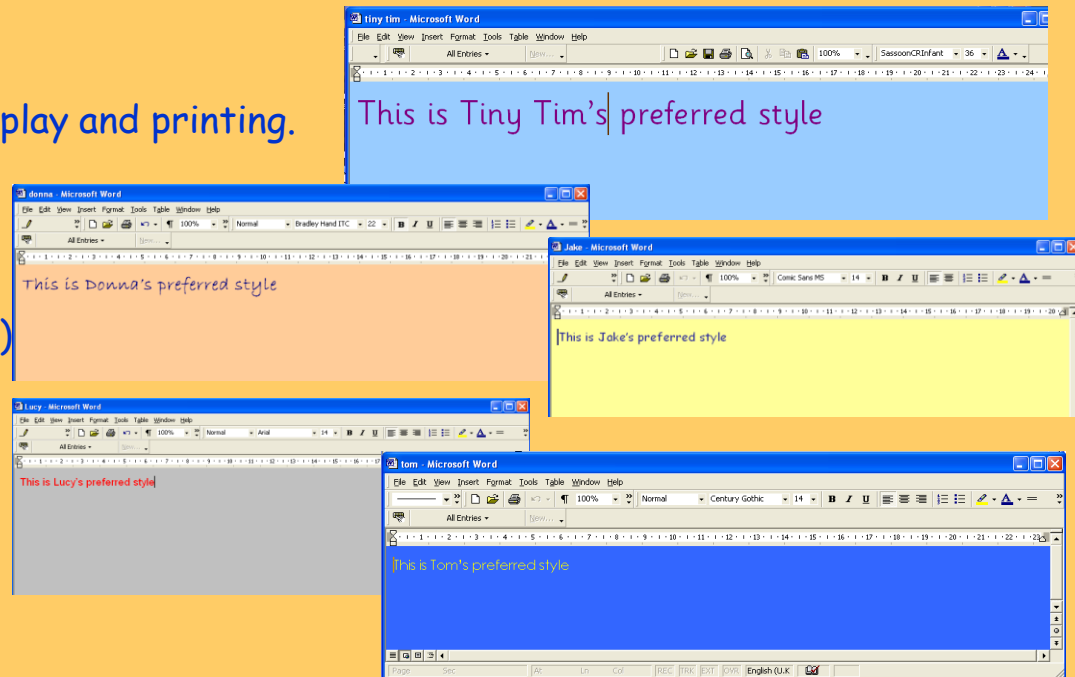
- Change the screen and text **colours**.
- Customise **spelling** and **grammar support**.
- Put difficult words or long phrases into **Autocomplete**.
- The teacher can **highlight errors** in colour and add **Comments**
- The student can **highlight significant words/phrases** in colour.
- **Tracking two documents** to show **changes**.
- The **thesaurus** can be used to help extend language and vocabulary.
- Add commonly mis-spelt words to **Autocorrect**.



Word is not perhaps the best tool for young children, but if it is available, it can be customised to provide support for individual needs - similar adjustments for older students help them to use the tool their peers are using, more effectively.

Support for writing (4)

- Personal preferences for on-screen display and printing.
- Speech recognition (for older students)



Page, font, size and text colour can be customised as a template for an individual child. The chosen text colour will print out, but coloured paper would need to be used for printing. Most children will find cream or buff paper acceptable and better than white.

Speech recognition is not so effective for use in a mainstream classroom . It works best for older students doing coursework or longer essays at home.

Personal technology(1)

The dyslexic student benefits from:

- A personal laptop /notebook set up with
 - personal display preferences.
 - a screen reader /talking wordprocessor.
- appropriate software.



If a dyslexic student is using a laptop or notebook all the time, it is essential that it is robust and has a good battery life as it is not always easy to work near a mains plug; one solution is to have a second battery.

There needs to be a contingency plan for if the machine has to spend some time being repaired, especially for exams if it has become the 'normal way of working'

Dedicated wordprocessing devices like the Neo are tough and have batteries that will work for several days without recharging . They are effective as notebooks to use anywhere in school, with files that can be printed out directly, or loaded into a pc or mac, if the student wants to amplify the notes, add diagrams etc.

The new mini pcs are reasonably robust, run lots of applications, but do have a limited battery life.

Personal technology(2)

- A digital recorder /player.
- A digital camera / phone.
- Access to a trained LSA or technician for trouble-shooting.



A digital recorder of some kind, ipod /mp3 player / digital recorder, is a very useful tool and can be used for:

Recording initial ideas.

Recording notes when reading an information book.

Recording homework details.

(With permission) recording the teacher's input to a lesson.

Recording planning of group work.

Digital camera or video camera can be used to:

Record diagrams from board or book.

Record a practical activity in science , D&T, geography fieldwork etc.

The camera in a mobile phone can be used, but there may be problems with schools' policies on using phones in class.

Things do go wrong with technology, so it is essential the child knows where to go to get help. Some LSAs enjoy the responsibility of being the technical guru and it pays to invest some time and effort in training them to fulfil this role.



Recording images

A digital camera or mobile phone can be used to:

- Record activities in a practical lesson.
- Capture lesson notes and diagrams from the board.
- Record homework details from the board.

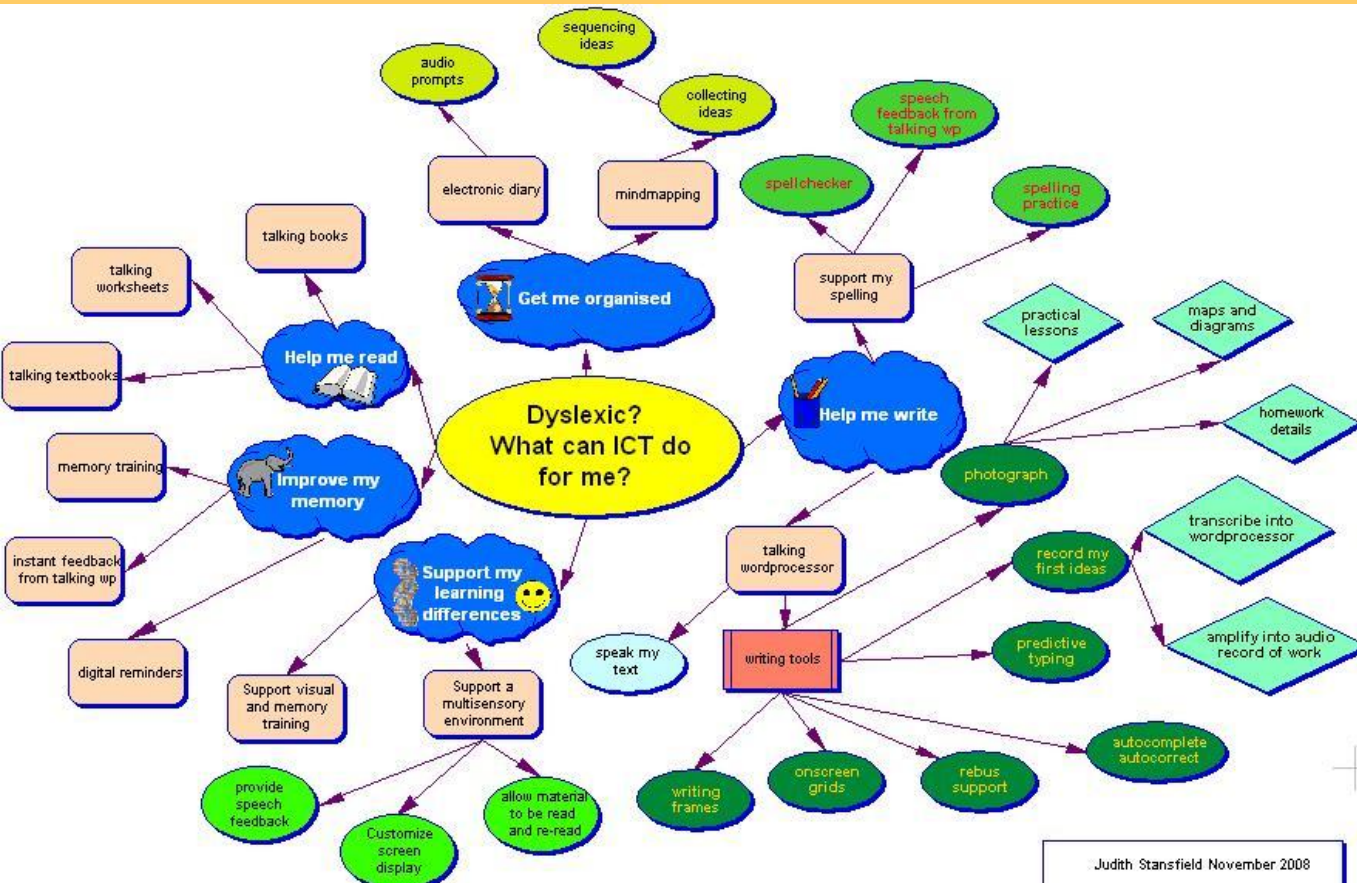


Organising ideas

Dyslexic people usually have good ideas (lateral thinkers), but are poor at organising them on paper. It helps to :

- Use mindmaps.
- Record ideas.
- Work in a group with a non-dyslexic scribe.

Mindmap to outline



+Dyslexic?

What can ICT do for me?

I. Get me organised

A. +mindmapping

1. +collecting ideas
 - a. -sequencing ideas

B. +electronic diary

1. -audio prompts

II. +Improve my memory

A. -memory training

B. -digital reminders

C. -instant feedback from talking wp

III. Help me read

A. -talking books

B. -talking worksheets

C. -talking textbooks

IV. +Support my learning differences

A. +Support a multisensory environment

1. -provide speech feedback
2. -Customize screen display
3. -allow material to be read and re-read

B. -Support visual and memory training

V. +Help me write

A. +talking wordprocessor

1. +writing tools

- a. -writing frames
- b. -rebus support
- c. -predictive typing
- d. -autocomplete autocorrect
- e. -onscreen grids
- f. +record my first ideas

(1) -amplify into audio record of work

Mindmaps can be produced directly on paper, but using software provides more flexibility in the early stages, when ideas can be jotted down as they emerge and then organised into a more meaningful sequence.

For visual learners, the mindmap helps to remember the information and how it inter-relates. The outline facility can be used to provide a writing frame for completing an essay or report.

Demos of mindmapping software can be accessed at:

www.mind-map.com

www.dyslexic.com (several)

www.dyslexic.com/inspir.htm

www.dyslexic.com/mindman.htm

www.spark-space.com

www.fishermarriott.com/thinkshe.htm

www.hands-free.co.uk/demos/

Interactive whiteboard

Good for dyslexic students because:

- Strong visual element to lesson
- Encourages interaction of whole class
- Notes etc. can be downloaded to child's computer / intranet or printed
- Homework details can be accessed as file or digital image

The nature of the IAB stimulates a teacher to produce an interactive lesson, often with graphic, videos and sounds. This stimulates the dyslexic's learning style and encourages the oral interaction which is frequently one of their strengths.

Depending on how the lesson is set up, the dyslexic student may be able to access the data on the intranet to revisit information, if needed.

If it's right for the dyslexic student, it's right for all students!

Given the option, many students choose the dyslexic options for:

- Dyslexia friendly worksheets.
- Using a wordprocessor.
- Their own choice screen displays.
- Planning with mindmaps.
- Technical wordlists before a new topic.
- A printout of homework details.

This document has been adapted from a presentation to the Rose Committee Enquiry into Dyslexia at the DCSF in 2008 by Judith Stansfield ©.

It may be freely used for educational purposes, but should not be adapted or sold on.