

## SECTION 9 EXAMPLES OF BEST PRACTICE

**Objective 9: To ascertain examples of best practice used in Scottish schools and cite selected examples from other countries**

**Outcomes: Examples of best practice in provision of different types and formats of accessible materials (e.g. reading books, textbooks, test and examination papers, worksheets).**

### Background to Section 9

In this section we provide examples of good practice in provision of accessible learning materials. The examples cover:

- a range of additional support needs (reading text, seeing text, understanding text, handling books, and writing/recording);
- different dimensions of support (for individuals, schools, groups of schools, and national agencies);
- different approaches and types of accessible formats.

We are grateful to our colleagues in schools and services who provided information and in some cases, the text, for these case examples.

### Supporting Reading

As we mentioned in Section 3 there are many approaches to remediating difficulties pupils have with reading. These include intensive approaches such as paired reading and various forms of synthetic phonics. Many pupils do benefit from such intensive highly structured methods. These are not the subject of this investigation and we would point the reader to excellent reviews of the clear and sustained improvements shown with these methods, such as described in Mackay (2006). We focus here on compensatory approaches.

#### Secondary school 1

Educational context	Secondary school
Support need	Reading
Learning resource	Reading books, worksheets
Accessible formats	Audio and summarised, differentiated material

Table 9.1: Supporting reading with audio recordings

One secondary school supports ten pupils in S1 known to have specific learning difficulty. The school finds that these pupils benefit greatly from materials in alternative audio and printed formats. Originally the Support for Learning teacher produced audio versions of books and material at home by recording onto audio cassette tape. More recently the material has been recorded using a Coomber CD recorder. The teacher is now exploring recording using a computer, with the aim of making MP3 files for children to access using a CD player, MP3 player, or iPod.

The teacher has found that an additional twenty-eight pupils who have not been identified as having dyslexia and do not have a support plan also benefit from using audio and summarised text versions of material printed in an accessible font, e.g. in the form of summary sheets or summary worksheets.

These pupils are working at Level B or C (expectation of working at Level D or above at that age). Some children are found to have difficulties with English and other subjects simply because they have a limited vocabulary. For them audio format has been found to be helpful. Many pupils themselves often turn to materials in alternative formats as supportive study aids, such as the BBC's Bitesize website.

Why is this finding important? Within Scottish education, national plans require pupils to spend time on personal reading. For a pupil with a reading difficulty he (they are mostly male) is expected to sit and read a book for forty minutes at a time. Many absolutely hate doing this, so what is to be done?

Staff find audio versions of the text to be extremely practical and beneficial: the media are cheap to copy; players are small, inexpensive and easy to use; and children listening while following the text at the same time can access the material at the same speed as the rest of the class.

Support for Learning staff at the secondary school noted that differentiated worksheets, from which pupils could pick and choose to work at their level, could be of great benefit. Where a teacher is developing course work these differentiated worksheets are now considered at the same time.

The school has reported a 'funnel effect' where many younger children benefit from audio support as well as those who remain at Level B/C. The benefits of audio support are far less marked as pupils progress into Higher and Advanced Higher study. Audio format does not suit all pupils. In particular those with auditory processing difficulties find aural information much more difficult and prefer visual support materials.

Much of the accessible material that is produced by this Support for Learning department was originally created by subject teachers, so copyright is not an issue. However, in order to create audio versions of other, commercial materials such as textbooks or reading books, the staff must in most cases write to the publisher to request permission. This imposes a large administrative load and can cause delays in production of the material. A minority of pupils are covered by the Copyright (Visually Impaired Persons) Act 2002 (see section 12). For them permission is not required.

One teacher has 2 hours per week allocated for production of material: clearly this is insufficient to produce sufficient audio and differentiated material for the 38 pupils in S1, and similar albeit slightly smaller numbers in S2 and beyond.

## Secondary school 2

Educational context	Secondary school
Support need	Reading text, writing and recording
Learning resource	Text books, worksheets
Accessible formats	Word, TextHelp Read and Write Gold & WordTalk

Table 9.2: Scanning textbooks and accessing using Microsoft Word

### Pupil A

TextHelp Read and Write Gold<sup>31</sup> is being piloted for one pupil with severe dyslexic difficulties in S3. The pupil has significant reading difficulties but can understand material when it is read to him by the Read and Write program, using synthetic speech. Text books are scanned into Microsoft Word, teachers make additional class notes and worksheets available for him and he also uses the program to read and access material from the internet. He takes the Read and Write laptop into classes where he can use it to write if necessary. This is the first year of using this program so its use is in the very early stages. Currently the pupil's preferred use for the program is revision. He has WordTalk (the free text reader for Word, available from the CALL Centre<sup>32</sup>) installed on his laptop at home and uses a pendrive to take home relevant revision material. He has revised independently for all S3 assessments in History, Modern Studies and Physics and has done very well. He completes assessments using a reader and scribe.

His own comments are

"It is easier to revise because it's a lot quicker than having to read it. I can't understand some of the words [when I read] and then the sentence doesn't make sense."

"It is a lot easier to recall the things you've learned. You don't have to sound it out. You can go to certain points on (the revision material – textbooks and teachers' notes) and it'll read out the facts on the page."

This particular pupil does not like the use of predictive text available on Read and Write Gold and therefore prefers to type his work fully. He uses WordTalk or Read and Write to read his work as he types to check for errors. He also is learning to use the thesaurus in Read and Write Gold.

### Pupil B

An S1 pupil, again with severe dyslexic difficulties, is also now being introduced to Read and Write Gold. He is practising using the predictive text facility as it suits him. Ideally he would also use the reading facility for revision, but currently the time is not available to gather and scan S1 materials. The collection of electronic formats for courses throughout the school curriculum will be part of the Support for Learning Development plan for some time to come.

Eventually all subject materials in electronic format will be available in the shared network area for any other pupils who require them, using WordTalk, which is also

<sup>31</sup> TextHelp Read and Write Gold, <http://www.texthelp.com/>

<sup>32</sup> WordTalk, [www.wordtalk.org.uk](http://www.wordtalk.org.uk)

on the school network. There is a problem with macros needing to be enabled for its use and therefore this is limited to approximately 20 identified pupils.

## Supporting Seeing

### Edinburgh and Lothians VTSS

Educational context	Visual Impairment service serving three local authorities
Support need	Seeing text
Learning resource	Reading books, text books, worksheets, assessments
Accessible formats	Braille, large print, raised diagrams, audio books

Table 9.3: Edinburgh and Lothians VTSS

There are thirteen VI or Sensory Support teams in Scottish local authorities who provide a transcription service for blind or partially-sighted pupils. The service based in Edinburgh and serving City of Edinburgh and the Lothians is highlighted here as an example of good practice. The service supports 230 visually impaired pupils of whom 3 are Braille users and around 30 use large print.

The Edinburgh team produce a very wide range of materials, mainly in Braille or large print. The service produces approximately 100 items per year and to date, has created a catalogue of 440 large print books and 173 Braille books. The transcription service has two full-time production technicians and three teachers. The teachers mainly support pupils in schools, but they do also contribute to the transcription service.

Each book is tailored to the individual needs of a pupil and the subject matter. For example, the same book may be adapted and printed in several font sizes; while the same pupil may use one format for a reading book, and a different format for a science textbook.



Figure 9.1: A selection of large print and Braille reading and textbooks, worksheets and assessments

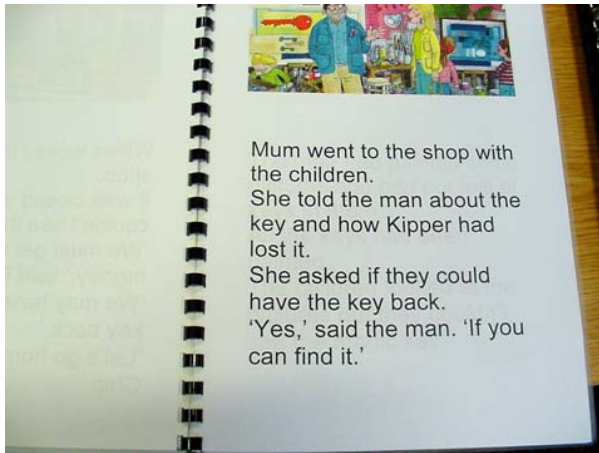


Figure 9.2: Oxford Reading Tree book in large print

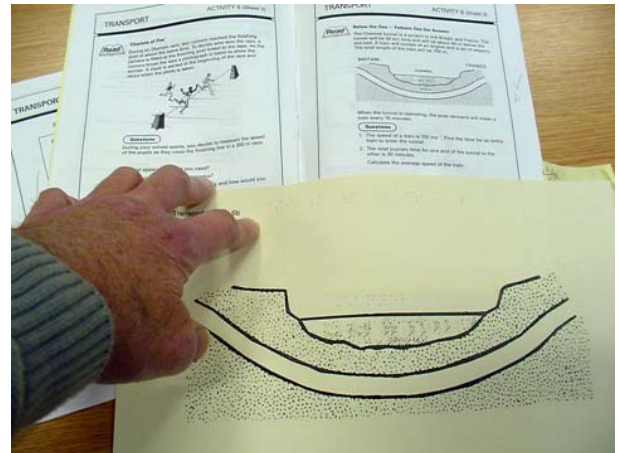


Figure 9.3: Textbook in Braille with raised diagram

## Supporting Understanding

### Supporting Deaf Children – Fife’s Sensory Support Service

Educational context	Individual pupil in Mainstream Primary
Support need	Understanding text
Learning resource	Jolly Phonics teaching resources, home-school communication
Accessible formats	Multimedia resources with BSL video

Table 9.4: Fife Sensory Support Service

Brian Shannan of Fife Sensory Service has been creating a range of innovative multimedia resources to support children with a hearing impairment.

The philosophy underpinning the support package is that ‘Deafness in itself is not a learning disability. Learning difficulties arise when deaf children cannot access communication’ (Yoshinaga-Itano, 1998). Brian has not only to provide access but also a consistent language policy that meets the needs of the individual pupils. He opted for a sign bilingual approach that uses both the sign language of the Deaf community and the written/spoken language of the hearing community. The objectives are to :

- enable the pupils to be linguistically competent;
- provide access to the wide curriculum of the school;
- facilitate good literacy skills;
- provide the pupils with a positive sense of their own identity.

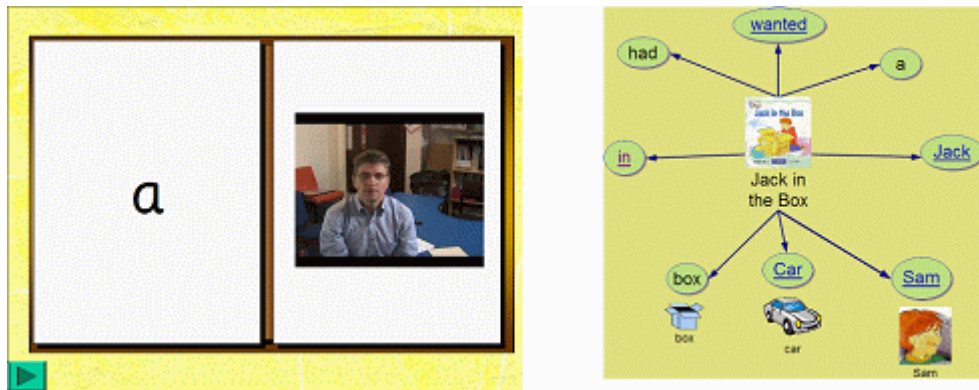


Figure 9.4: Illustration of Jolly Phonics with BSL video clips (left) and mind map (right)

For example, in St. Margaret's RC Primary School the children in the class are learning to read and write using the popular Jolly Phonics materials<sup>33</sup>. Jolly Phonics teaches letter and word sounds, which is obviously challenging for a hearing impaired child and so Brian has created a multimedia resource which combines Jolly Phonics illustrations with video clips of the appropriate BSL finger spelling/sign.

Although phonics develops letter recognition, essentially English is taught as a second language. The team developed mind maps that incorporate visual clues, the written word and a video sign. This has helped pupils to make excellent progress with reading and writing.

The pupil's parents are Deaf and Brian, working with the school staff and parents, has devised a home-school video diary and letter system. Every day, anything that needs to be communicated between school and parents is signed and recorded on video, and then saved to a USB memory stick. The pupil takes the memory stick home for parents to view the video and reply using the same technique. This is an excellent example of meeting obligations under the Education (Disability Strategies and Pupils' Educational Records) (Scotland) Act 2002 - Planning to Improve Access to Education for Pupils with Disabilities.



Figure 9.5: Screen shot from the BSL video home-school diary

<sup>33</sup> Jolly Phonics, <http://www.jollylearning.co.uk/>

**Symbolised Oxford Reading Tree books - Croftcroighn School, Glasgow**

Educational context	Primary Special School
Support need	Understanding text
Learning resource	Oxford Reading Tree books and materials
Accessible formats	Oxford Reading Tree books and materials with symbols

Table 9.5: Symbolised ORT books at Croftcroighn School, Glasgow

Croftcroighn caters for children from 2-12 years of age with severe and complex learning difficulties, including cognitive, sensory, communication and physical impairments. The school use the Oxford Reading Tree<sup>34</sup> scheme but the materials are not suitable for some of the pupils in school who are struggling with literacy. The stories and characters are appropriate and engaging but the pupils have difficulties with learning the words, and so Aileen McIntyre, I.C.T. Teacher, has created books and teaching resources based on the books, but with the addition of pictures and symbols.

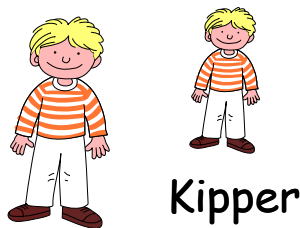


Figure 9.6: Picture and picture/word cards

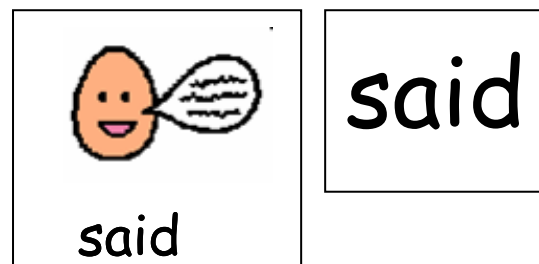


Figure 9.7: Symbol/word and word cards

Pupils first use flashcards with picture/words in Stage 1 to match to the picture of the characters. It is hoped that at least some children will make the transition to unsupported words. Then children learn to match the plain word to the corresponding picture/word. Picture/symbol materials are also used by non-verbal, non-text users to answer questions and demonstrate understanding of the stories (Figure 9.8).

Staff have found that by using these strategies some children have gone on to read the books very successfully but there are still many who do not make the transition to reading a book: they still need the cue of the picture or symbol.

<sup>34</sup> <http://www.oup.com/oxed/primary/literacy/ort/>



Figure 9.8: Activity board and communication sheet for non-verbal children

As an experiment, Aileen printed out a book from an ORT Talking Book CD, created and printed a picture/symbol 'translation' (Figure 9.9) then laminated and bound the two together to create a symbolised reading book. These books were so successful that they have been made available to the whole school and there are now packs with appropriate Communication Sheets and word banks with words and symbols appropriate to each ORT book. The first books were produced using BoardMaker and PCS<sup>35</sup> symbols. Aileen has now changed to use the British Widgit Rebus Symbols<sup>36</sup>, mainly because they include appropriate symbols for actions. Aileen's production process involves:

- creating and printing the symbol sentences for the book;
- taking an ORT book apart;
- laminating the symbols with each page of the book;
- binding the result to create a book;
- creating matching sets of word, word/symbol and symbol cards; and communication and activity sheets.

Pupils with learning difficulties get huge satisfaction and motivation from reading the symbolised books. The children take the books home to read with and to their parents, and this has been extremely well received by parents. Staff report that teaching using the symbolised books and materials has improved childrens' basic literacy skills (word and sentence recognition and comprehension).

One teacher said: "I have been using Aileen's symbolised Oxford Reading Tree books since I came to Croftcroighn School over 3 years ago. They have allowed the children in my class to progress through the reading scheme and achieve great success in reading."

<sup>35</sup> Mayer-Johnson PCS Symbols, <http://www.mayer-johnson.com>

<sup>36</sup> Widgit Software, <http://www.widgit.com/>



Figure 9.9: Symbolised Oxford Reading Tree reading book and workbook

Staff have also made sets of Clicker grids for the books, so that pupils can consolidate and demonstrate their understanding of the stories.

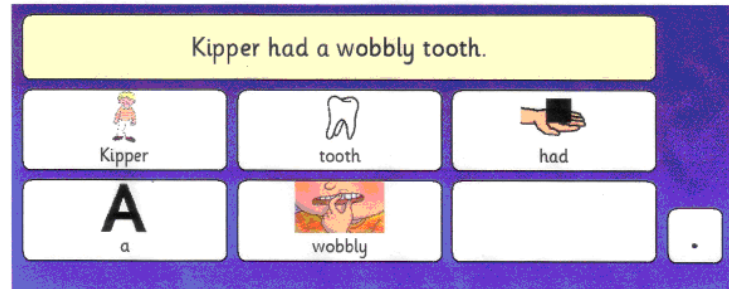


Figure 9.10: Clicker grid for writing about a book

Following the success of these books in Croftcroighn, Aileen approached Glasgow City Council, Oxford University Press, and Wigit Software to explore publication and distribution of the books. Glasgow Council has waived any rights which they may have had, a licensing agreement has been made with Wigit, and OUP are currently considering a licensing proposal. Initially, she intends to print and publish the symbolised books on a small scale herself.

### Priory Woods School, Middlesbrough

Priory Woods is an all age community special school in east Middlesbrough for pupils with severe learning difficulties and those with profound and multiple needs. The school is listed as 'Outstanding' on the Chief Inspector's Ofsted list, and the school's web site, created by Ian Bean, won a BETT award for ICT and Inclusion in 2002. The web site (<http://www.priorywoods.middlesbrough.sch.uk/>)

has a huge range of resources and activities including, for example, interactive story books made using PowerPoint.

### CALL Centre Symbol Story Packs

Educational context	Primary / early years
Support need	Reading and understanding text, communicating, writing and recording
Learning resource	Reading books
Accessible formats	Symbol resources; digital 'talking books'

Table .9.6: CALL Centre Story Packs

Story / Symbol Packs are sets of materials to help staff and parents read and interact about picture story books with young children. The materials consist of:

- A paper symbol chart, called *Choose a Story*, allowing the child to select their preferred story book.
- The six story books.
- Six colour paper symbol topic charts or 'story boards', one for each book.
- BIGmack Tops - for sticking on to the top of a BIGmack communication aid - for each story there is a page of 2 sets of 3 pictures.
- A written guide on ways to use the materials with children.

The symbol materials help children understand the books, and enable non-speaking children or pupils with language or learning difficulties to participate in interactive storytelling. The books are bought by the CALL Centre from the publishers, symbol packs created, and then sold direct to schools and other customers.

A recent addition to the Story Packs (see below) has been digital versions in formats such as Clicker, PowerPoint and swf (Flash). Children can press a switch, use the keyboard, mouse or trackball, a touchscreen, or other access device to turn the pages on screen and read and listen to the text being spoken out. These resources are made under a CLA 'VIP' licence which permits them to be provided to pupils with physical or visual impairments.

### Supporting holding books & turning the page

#### 'Helen'

Educational context	Individual pupil in Mainstream Primary
Support need	Holding books / turning the pages
Learning resource	Reading books
Accessible formats	Microsoft Word, Reader, Acrobat PDF

Table 9.7: Helen – accessing digital reading books

Helen is a young girl who attends a mainstream primary school. Helen is in Primary 7 and has arthogryphosis, which is a physical disability: she cannot walk

and so drives an electric wheelchair. She has some difficulty with writing and holding and manipulating objects. Provided someone places a pencil between her fingers Helen can write; she can also use the rubber end of a pencil to type on a computer keyboard; and she can operate the trackpad on a laptop computer with the knuckles of her fingers. However, one thing that she cannot do is hold and turn the pages of books and this means that she is frustrated because she cannot read books from the library or use text books or work sheets in the class. Helen does not have any difficulties with reading but her teacher was concerned that her literacy development would be restricted because she does not have sufficient opportunities to read.

Helen was referred to the CALL Centre via a Partnership Agreement between CALL and the local authority. The request from Helen's class teacher was very simple: can we get reading books from the school library onto the school computer so that Helen can 'turn the pages' electronically? Helen said she would like to read titles by Roald Dahl and Jacqueline Wilson. A search on *Revealweb* returned copies of *The Suitcase Kid* by Jacqueline Wilson available for loan or sale in Braille, giant print, various large font sizes, and also Digital Talking Book format, but digital versions were not listed.

CALL has a CLA 'VIP' licence<sup>37</sup> which permits adaptation of accessible books for pupils who are visually impaired, unable to physically handle books, or have certain visual-perceptual difficulties. The paperback was scanned into the computer using FineReader Pro<sup>38</sup> (a standard package costing around £70), and digital versions were created in Microsoft Word, Microsoft Reader and Adobe PDF formats. These formats were chosen (in preference to Daisy, for example) because:

- these formats provide viewing, navigation, search and study tools that Helen requires;
- Microsoft Word was already on the school computers and Helen's laptop, and Microsoft Reader and Adobe Reader are both free, whereas additional software at a cost would be needed to read a Daisy book;
- Word and PDF are more inclusive: Helen, staff and other pupils are already familiar with these formats and programs;
- Word and PDF formats are interactive and so digital worksheets and assessments can be created;
- many materials, such as textbooks from publishers, 5-14 assessments, commercial worksheets etc are available in Word or PDF;
- the scanning and OCR software can generate Word and PDF files directly.

Helen and her staff evaluated the books in the three formats and chose the Microsoft Reader format as the most accessible and suitable. For worksheets, she will use Microsoft Word since this program allows her to type in answers.

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<sup>37</sup> CLA VIP Licensing Scheme: Guidelines for Licensees, <http://www.cla.co.uk/licensing/vip.html>

<sup>38</sup> ABBYY FineReader Pro 8, <http://buy.abbyy.com>

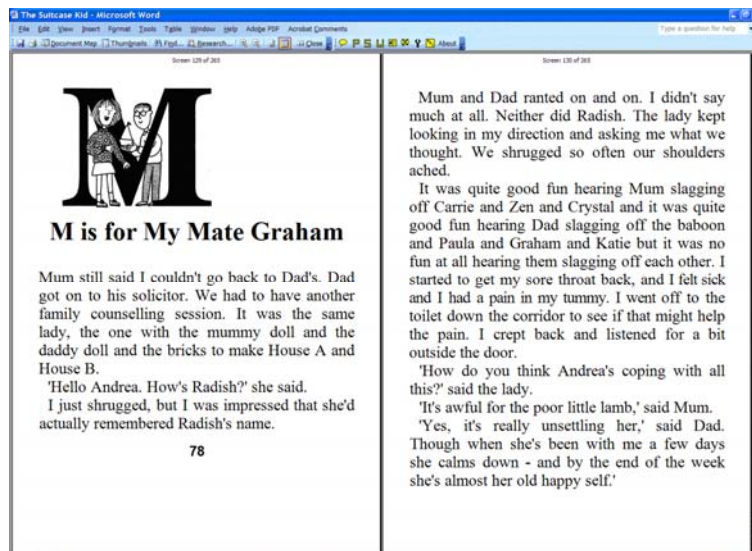


Figure 9.11: Book scanned and viewed using Microsoft Word Reading Layout

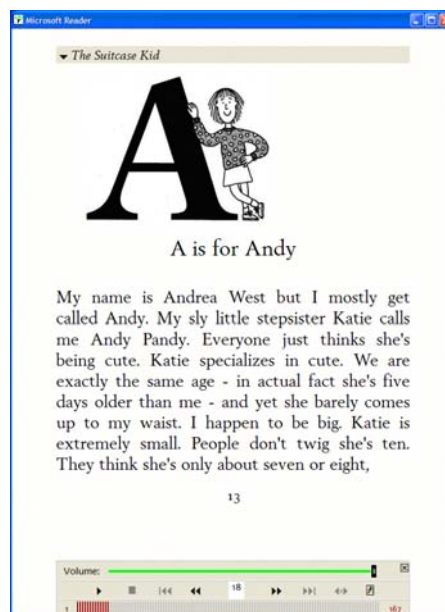


Figure 9.12: Microsoft Reader version

CALL does not have capacity to create all the books, worksheets and other materials that Helen requires and so we wished to develop this capability in her school. By using industry-standard software costs are minimized and we hope that staff and Helen will be able to develop transferable skills. Nevertheless, staff will struggle to create accessible versions of all the reading books, textbooks and worksheets that Helen will require given that it is estimated that she will need at least:

- 4 Maths books;
- 16 English Books;
- 10 Topic books;
- several dozen worksheets;
- together with reading books from the library.

Helen and her class wrote to Jacqueline Wilson, Children's Laureate and author of *The Suitcase Kid*, to raise the issue of accessible digital books for pupils like Helen and were excited to receive a postcard saying that the matter would be taken up with her publishers.

Helen was asked if she would like to have an input to the Books for All project and she wrote:

*My name is Helen and I have the condition Arthogryphosis. This is a term describing the multiple joint contractures at birth. It makes it difficult for me to access books and turn the pages.*

*I need someone with me to collect the book, help me pick it up if I drop it and sometimes help me to turn the pages. It makes me feel that I am always relying on other people. Also I am not getting as much reading as I should be because I can't turn the pages as fast as my classmates. It takes me longer to read a book which means I sometimes lose interest in the story.*

*Recently I have been able to access books through Microsoft Reader. I like this because I only have to click a button to turn the pages.*

*My classmates and I all think that you could help me, and other children like me, by publishing books in a digital form. This should be possible seeing as publishers already do Braille and large print books for the visually impaired.*

*This would really help me because I would be able to access the books on my own without relying on anyone else. It would help me to read faster and help me to keep up with the rest of my classmates. I wouldn't be so likely to lose interest in the book as I do normally.*

*If you could at least consider my request I would very much appreciate it.*

*Your sincerely,*  
*'Helen'*

### **'Megan'**

Educational context	Individual pupil in Mainstream Secondary
Support need	Handling books and writing/recording
Learning resource	Reading books, textbooks, worksheets
Accessible format	Kurzweil 3000, audio books on CD

Table 9.8: Megan – accessing digital textbooks

Megan is now in S2 of her local mainstream, secondary school. Megan has cerebral palsy which effects her mobility and fine motor skills. Megan has a powered wheelchair with a 'riser' seat which means that she can elevate herself up to higher desks and workbenches; it also means that Megan can speak to her peers at almost eye level, rather than conversing with their chests.

When Megan was in primary 7, staff at the secondary school started planning for her transition to secondary; access to learning materials and to a satisfactory method of recording were obviously key issues. Megan has difficulty holding and handling books, and handwriting, so she was provided with a PC laptop computer. Support for Learning staff used Kurzweil 3000<sup>39</sup>, a specialist scanning, reading and study program for students with reading difficulties to scan in a range of books so that Megan would be able to access them independently:

<sup>39</sup> Kurzweil 3000, <http://www.sightandsound.co.uk/>, <http://www.kurzweiledu.com/>

*“Megan is going from strength to strength. I have scanned all of her French book in colour - this is very handy for her as a lot of the exercises involve colour. I have scanned chapters of Maths for her too. I have scanned all of the S1 Social Subjects booklets for her. I have scanned all of the English workbooks into the laptop too. She is reading "Little Women" from the Library CD and thinks it is great as she does not have to hold the page open and turn pages.”*

The staff chose to use Kurzweil 3000 because:

- it was already available in the school;
- the digital pages that are generated by the program look very similar to the original paper version – a factor which is particularly important when scanning textbooks with a large number of graphics and a complicated layout (most scanning and OCR programs that produce HTML, PDF or Microsoft Word files do not produce a faithful layout);
- it is particularly quick and easy to use.

The main disadvantage of Kurzweil is cost – the Professional version for scanning books is £725, while the Learn Station version which Megan uses to view the digital books on her laptop is £185.

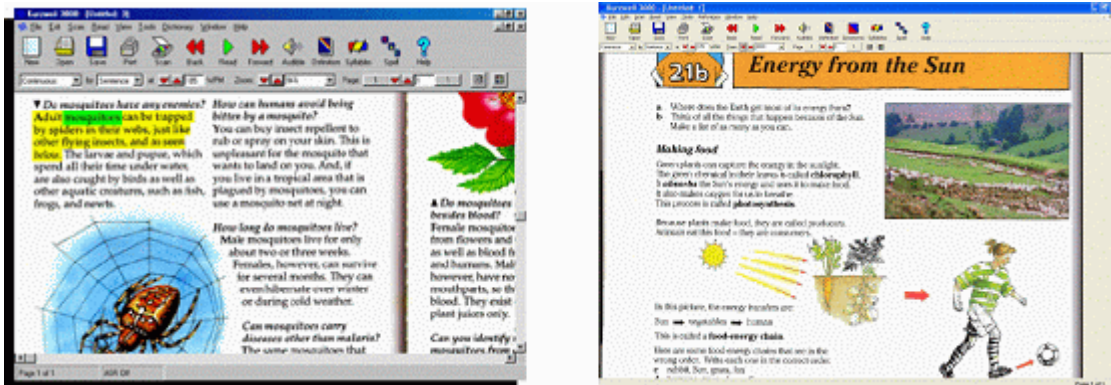


Figure 9.13: Textbooks scanned with Kurzweil 3000

## Switch accessible resources

Switch-accessible versions of the books are a new development of the CALL Story Packs. Children who have difficulty holding the books or turning the pages can use a mouse, touch screen or a switch, to ‘turn the page’ and read and listen to the books themselves. The accessible versions are made and distributed with permission of the publishers.



Figure 9.14: 'Dirty Bertie' in switch-accessible digital format

## Supporting writing and recording

### ‘John’

Educational context	Individual pupil in Mainstream Primary
Support need	Handling books and writing/recording
Learning resource	Reading books, textbooks, worksheets
Accessible format	Microsoft Word

Table 9.9: John – physical access to worksheets

John is in Primary 7 of a mainstream school. John has Cerebral Palsy and is an expert wheelchair driver: he is well known for thundering around his school causing all and sundry to get out of his way. John has some difficulties with his speech but it is intelligible and no-one has difficulty understanding what he says.

However, John cannot write or turn pages in a book by himself and when he is recording his work in school he either dictates to his assistant who writes down what he has to say or he types on a computer keyboard with his chin pointer (a device he wears on his head, with a stick projecting from under his chin). John is doing very well in school and he is in the top set of children for Maths and English.

Like Helen described above, John can't turn the pages of his textbooks or worksheets himself, so either an assistant or another pupil holds the book and turns the pages for him or in some instances his assistant scans the book into the computer and then John can press the 'page up' and 'page down' key to turn the pages. Of course John also needs to write as well as read and so when he is answering questions in worksheets, his assistant scans the worksheet in to the computer, draws in 'answer boxes' on top using Microsoft Word, and then John types his answers in himself. Scanning books into the computer and then adapting them in this way is very time-consuming and the assistant does not have time to convert all the materials that John needs.

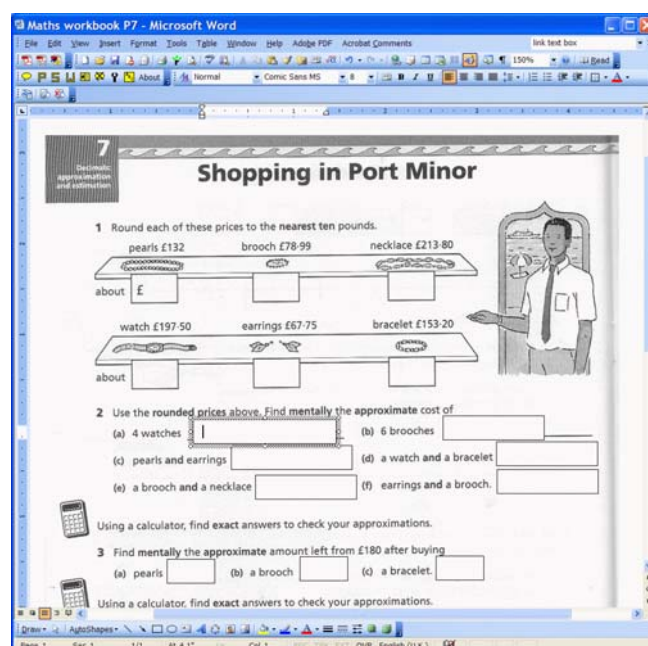


Figure 9.15: Worksheet scanned into Word and made interactive.

## Local authority implementation of *WordTalk*

Educational context	Local authority
Support need	Reading and seeing books; writing/recording
Learning resource	Reading books, textbooks, worksheets, assessments
Accessible format	Microsoft Word

Table 9.10: WordTalk – access to digital books for pupils with reading difficulties

WordTalk is a program which helps children with visual, reading, writing or spelling difficulties. It can read out any text from a Microsoft Word document on a PC, and also has a talking spellchecker and thesaurus. WordTalk was developed by Rod Macaulay of TASSCC in Aberdeen, and in 2005 the Scottish Executive Education Department funded the CALL Centre and Rod to create a version of the software for distribution free of charge to Scottish education. In September 2005 WordTalk was distributed to all secondary schools in Scotland, and to local authority ICT and Support for Learning teams. It can also be downloaded free of charge from the CALL Centre web site (<http://www.wordtalk.org.uk>).

In February 2007 Rod was given a Microsoft Innovative Teacher Award in recognition of his work on WordTalk.

There are many programs which can read out text and that provide support with spelling; the advantages of WordTalk compared to these other tools are that it:

- is free (compared with, for example, *TextHelp Read and Write*, which costs £795 for a secondary school licence – although Read and Write and other similar programs have higher quality voices than WordTalk, can read web pages and PDFs, and have additional tools);
- relatively easy to install on networks;
- is simple to use.

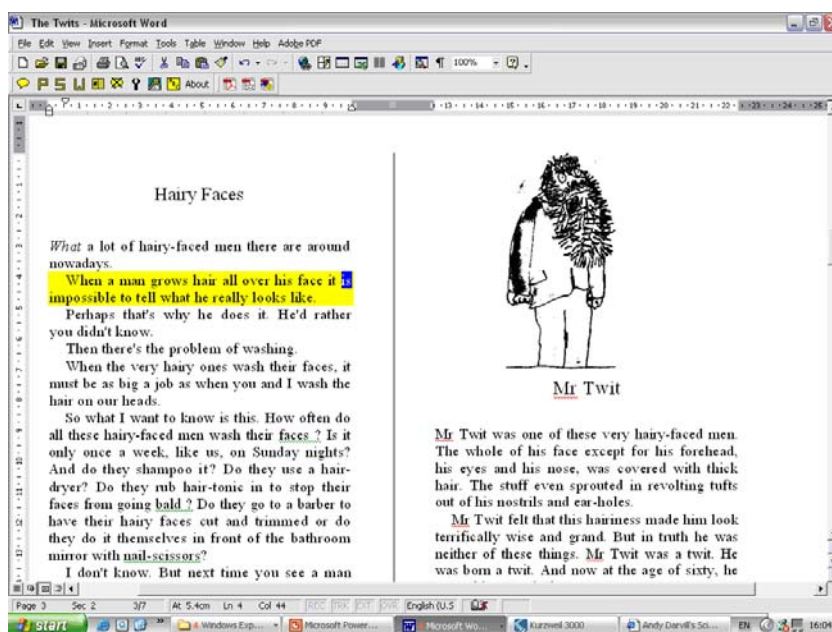


Figure 9.16: Reading book scanned into Word and read using WordTalk

Janet Mackie, ICT Support Coordinator (ASN) in Fife Council, worked with Fife ICT support teams to make WordTalk available on all the computers in the authority's schools. The distribution has been backed up by staff development. Janet gathered some comments from staff and these are given below:

- "It was a relief to me to see that class teachers related to it much better than other programs. It is a natural extension of Word for them. They didn't really have anything new to learn."
- "I'm using it successfully with my primary class, and my dyslexic granddaughter has found it useful in her Higher Studies."
- "WordTalk is installed on almost all the computers in school. . . . A system was in place for Gavin. An adult would sit with him at the start of a writing lesson and briefly jot down his plan. Then he would take that piece of paper to a computer with WordTalk on it and use Word to create his piece of writing. Gavin passed his Level D Writing in June with the aid of the computer. This is a great achievement for Gavin."
- "As he was working, he taught me another way of using WordTalk which I had not considered. He realised that his spelling is quite bizarre and that even the WordTalk spellchecker could not help him e.g. 'feyure' for 'fear'. . . . so he gets the program to speak the word individually . . . he realised it sounded nothing like 'fear', so he took off the 'e' and 'y' making 'feur'. This sounded like 'fear' in WordTalk and this was the second choice on the spellchecker."

Implementation across the authority (compared with, for example, only offering the software to a small number of identified children with additional support needs) has meant that the tool is being used by a wide range of staff and pupils. It has also meant that issues regarding installation and access on the council's networked computers (which sometimes prevent or restrict software for pupils with disabilities being installed) were addressed systematically. Widespread availability of the software aids inclusion: staff and pupils can choose to use WordTalk because it is always there, rather than having to apply to have it installed on an individual basis for an individual pupil.

### SQA Digital Question Papers

Educational context	Scottish National Agency
Support need	Reading text, seeing text, holding/handling book, writing/recording
Learning resource	SQA examination Question Papers
Accessible formats	Acrobat PDF, speech-enabled

Table 9.11: SQA Digital Question Papers

Following development and evaluation over the past few years, a small number of pupils (31) with additional support needs used digital question papers to sit 105 SQA externally assessed examinations in May 2006. This is the first time that digital question papers have been used in formal external assessments by any national examining body.

Feedback from the students who used the papers revealed that they were enthusiastic about the digital question papers, with 28 out of 31 stating that they

would use them again (3 were not sure) and all the students felt that SQA should provide digital question papers as another option beside other types of adapted question papers. Pupils found typing into the digital papers faster, easier and in some cases less painful than handwriting; more private than using a human reader; and less stressful.

Comments from students:

It's easier and less stressful than having to write it yourself.

Papers are simpler to use. You do not have to fiddle about with different papers. By switching windows, you can see both the question and the text at the same time.

Digital paper is easier to use. It is easier to type answers in rather than write them in.

It saves time. It is simpler to use. You don't have to fiddle with lots of paper. You can see the text and the questions at the same time.

It makes it easier for many pupils to do their papers this way.

Because it is much easier to use than a reader

Table 9.12: Comments from Students about the SQA Digital Question Papers

Interviews were conducted with staff involved in the pilot: staff felt that most students were more confident, independent, motivated and skilled when using digital papers than with traditional papers and accommodations. All stated that SQA should provide digital adapted question papers in future. Centre staff found the digital question papers to be reliable (average of 4.75 out of 5 for reliability). Some schools had difficulty finding and organising sufficient numbers of accessible computers, and this may be a barrier to increased use of digital question papers in future.

Overall, staff felt that the demands on resources were lower when using digital question papers compared to traditional assessment arrangements such as human reader and scribe (average of 2.88 compared to 4 (on a scale of 1 to 5) in terms of staffing; 2.25 compared to 3.5 in terms of accommodation; 2.25 compared to 3.5 in terms of invigilation).

SQA analysis revealed no measurable difference between the estimated and actual results obtained by the candidates using digital question papers, although the small numbers of candidates involved made analysis difficult. Digital question papers did not appear to have an impact upon results achieved compared to other types of assessment arrangement.

The digital question papers were produced in Acrobat PDF because of relatively low production costs for SQA, good accessibility, functionality and reliability, and low cost for schools. SQA already produce question papers in PDF, and so there was no need to re-design the papers. (Had the papers been produced in Microsoft Word, or Daisy format, for example, they would have needed to be re-designed at considerable time and cost.) Answer boxes were added to the question and answer papers so that pupils could type their answers on-screen, and TextHelp Systems' *PDFaloud Publishing Toolkit*<sup>40</sup> was used to add text-to-speech facilities for students with reading or visual difficulties. The PDF papers are reasonably accessible for the majority of candidates: they can be magnified; colours altered; accessed using the keyboard instead of the mouse; and the PDFaloud text-reading software is helpful for candidates with reading and visual difficulties. Cost

<sup>40</sup> <http://www.texthelp.com/>

to schools are relatively low: to use a digital question paper the candidate must have access to a computer with Acrobat Standard (at around £25 per licence) and the (free) PDFaloud text reading software installed.

Adapted digital question papers in Acrobat PDF therefore appear to offer considerable benefits. The question papers produced by SQA were reliable, relatively inexpensive to produce and staff estimate that demands on accommodation, staff and invigilation were lower than traditional support methods. More importantly, the students who used them in May 2006 found them effective; students using digital question papers are far more independent than those using other types of support such as scribe and reader; and results obtained using digital papers are in line with results achieved using other methods.

The full evaluation report will be available on the CALL Centre web site at: <http://www.callcentrescotland.org/digitalexams>.

SQA has approved the introduction of digital question papers for pupils with additional support needs in 2007, and expects to make them widely available across Scotland in 2008.

