

Insight

RNIB

Supporting blind and partially sighted young people

Issue 34 • July/August 2011

Digital technology

- **Ebooks in education**
- **Making the most of mobile devices**
- **Audio projects in ICT**

Plus

Oral health for children

Automated v manual transcription



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Insight



Welcome to issue 34 of Insight, the leading magazine about children and young people with sight problems.

As digital technology pervades more and more of our daily lives, this edition looks at some of the very real benefits and opportunities that new technologies can bring to education and learning. Embracing these opportunities is of course second nature to young people growing up in an interactive, digital era, yet for blind and partially sighted children much still remains open for improvement. We take a look at the potential of mobile phones (p19), the role of ebooks in education (p9), and the ways in which new technologies like the iPad can replace traditional forms of access technology (p23). An inspirational interview with Ashley Cox, a 15 year old technology wizard, who built his own computer and created his own website, underlines the powerful way in which new technologies can shape young people's lives. Ashley's website recently received more than a million hits.

In other articles we continue our new Inspiring Lives series with successful young musician and composer Lloyd Coleman; while our Oral care feature focuses on strategies for supporting children with sight loss and with complex needs through an often challenging aspect of personal care.

And there's still time to enter our fabulous **Insight** fifth birthday celebrations. Turn to page 4 for your chance to win a 3G wireless Kindle ebook reader!



Jo Lockwood, Editor

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In the next issue

We focus on eye health including a look at screening projects for children with sight loss; a new vision assessment tool; and support for families at the eye clinic.



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Insight is printed on
100% recycled paper.



Digital curriculum materials service

Accessible text books are a step closer, as work has started to create a digital curriculum materials service for secondary schools in England.

Dyslexia Action and RNIB have received support from the Department for Education for a partnership project to create a fully accessible and dyslexia friendly website-based service. This will provide downloadable curriculum materials in a range of accessible formats for young

people who cannot read standard print and their teachers.

This fantastic milestone could not have been reached without the support of parents, children, teaching staff and MPs, who backed our campaign for every child's right to read and to equal educational opportunities. The service is scheduled to be available in the 2011–12 academic year and we will bring you more details nearer that time. But don't forget, over 100 commonly used textbooks are already available from RNIB to every learner with a print impairment. To find out more visit <http://www.rnib.org.uk/textbooks>

Do you know a child who's a super surfer?

Do you know a child who uses their technology skills to help others? If so, it might be time to reap rewards from all those hours spent online by entering them into BT's Internet Ranger awards.

With four iPads and £100 worth of IT vouchers to be won, plus an additional £100 for the overall winner, the competition is open to any child between the age of eight to 16 who has used their computer skills to help an older person get online. Children can be nominated by their friends, family, school, or even by themselves. It's easy to apply – all

you have to do is visit the scheme's website – www.bt.com/internetrangers – go into the student award section and complete the student application form.

The important element in applying is for young people to demonstrate how they are bridging the generational divide of technology. Competition closes 24 October 2011.



Win a 3G KINDLE ebook reader!

Don't forget – there is still time to enter our fabulous competition marking Insight's fifth birthday. Tell us in 50 words or less what

impact Insight magazine has had on you, or your practice. Share your thoughts by emailing insightmagazine@rnib.org.uk

All entries received by 1 August will enter our prize draw for the chance to win a fantastic 3G wireless KINDLE ebook reader!

New name unveiled at RNIB Rushton

Children and staff at RNIB Rushton School and Children's Home in Coventry celebrated past achievements, current standing and future vision in May when it officially launched its new name and logo, as **RNIB Pears Centre for Specialist Learning**.

RNIB Pears Centre offers individually-tailored education, care, therapies and healthcare to young people with complex needs who are blind or partially sighted, up to the age of 19.

Our partnership with Pears Foundation

The name change is in recognition of the exceptional support of Pears Foundation which has invested more than £1 million in the service, helping RNIB provide state-of-the-art facilities for young people with complex needs and who are blind or partially sighted from all over the UK.

New specialist bungalows

The redevelopment, which is due for completion in 2012, has so far created five specialist bungalows which are designed to develop and encourage independence as well as cater for the individual needs of the children. Each bungalow has specially designed bedrooms as well as gardens and outdoor play areas.

Ginny Tyler, Principal Manager: Care and Wellbeing at the Centre, said:

"The young people attending RNIB Pears Centre moved into the new bungalows just three weeks ago and already we are seeing a positive impact on their

behaviour and quality of life. They enjoy spending time in the gardens and have begun growing vegetables and using the paddling pool. The opportunity to explore and extend their environment in these new and beautifully designed homes is really exciting!"

A newly built school will be ready later this year and will include specialist classrooms, each with space for one-to-one and group teaching, physiotherapy and mobility equipment. New facilities also include multi-sensory environments, a music room, library and hall. A hydrotherapy suite will be built in 2012.

For more information visit rnib.org.uk/pearscentre



Sporty books for young braille and Moon readers

To tie in with next year's Olympic and Paralympic Games the ClearVision children's braille library, based in South West London, is adding 200 new books on a sport, activity and healthy living theme to its postal lending library of books adapted for blind and sighted children and adults to share.

The new Touchlines collection has been granted the Inspire Mark: the badge of the London 2012 Inspire Programme which recognises innovative and exceptional projects that are directly inspired by the 2012 Olympic and Paralympic Games.

The collection (funded by charity VICTA) will include new children's books at all levels. For children in the early stages of development, a fabric tactile book with tactile illustrations will spell out in simple rhyme the benefits of a rabbit's lifestyle. Rabbits Don't ends with a little rabbit on elastic so that the child can make it hop, skip and jump across the page.

Older children will enjoy a specially designed book about the nine paralympic sports open to totally blind athletes.

This book will include embossed tactile illustrations as well as information on how to take part in the featured sports. The design for this book will be available for free download from ClearVision's

website (www.clearvisionproject.org) enabling schools and libraries around the world to produce their own copies so readers can share in the excitement of the London 2012 event.

The new collection and the downloadable sports book will be launched on 20th September, when ClearVision will also be celebrating its 25th birthday.



A Sporting Chance – Family event

Part of London 2012
Open Weekend 2011

Help to start the countdown to the beginning of the London 2012 games by finding out about Joe, a boy who loves sport more than anything else in the world. The only problem is...

Join storyteller Fiona Alderton on this epic adventure of a young boy who dreams of

competing in the 2012 Olympics and Paralympic Games and the fascinating friends he meets on the way. The storytelling session will be followed by the chance to design and make a flag. A family event for children aged five to 10 years.

This will be held on Saturday 23 July 2011 at 10.30–12.30 at National Portrait Gallery, St Martin's Place, London WC2H 0HE.

For more information and an application form contact: Emma Lincoln, RNIB National Arts Development Officer on 020 7391 3285 or email emma.lincoln@rnib.org.uk

Update on the Green Paper on SEN and disability

RNIB held a series of free regional consultation events in May to gather the views of parents and professionals to the Department for Education's Green Paper on SEN and disability, launched in March. The Green Paper makes far reaching proposals for reshaping educational services for children and young people (CYP) with SEN and disability

On the basis of the views shared at the consultation events, RNIB co-ordinated a response with the National Blind Children's Society Guide Dogs, Sense, Action for Blind People, Royal London Society for the Blind, and VIEW and VITAL networks.

The main test that the government's proposals need to meet is will they provide the support needed for a low incidence group, like blind and partially sighted children and young people, who have specialist support needs?

Many questions need to be answered:

- Who will co-ordinate the single assessment process?
- How will funding be aligned?
- Who is accountable?
- Which children and young people will be included?

Central support from Government will be needed to reinforce through a national offer the particular requirements of CYP with a low incidence need. This should not undermine the entitlement of every child or young person to universal free education and health care. Settings should still have to fulfil their legal duties.

The national offer should be developed based on clear recognised criteria. It should also make explicit the continuity between the local offer, single category and Plan as a continuum of support. Entitlement to the support services of a QTVI for all CYP with an identified VI must be part of this.

The national offer should be used to specify those elements which are essential for a visually impaired child or young person, such as:

- the provision of equipment
- adult support (including use of a trained TA)

- QTVI input
- ongoing adaptation of resources
- the entitlement to consistent funding for low vision assessments and prescription of aids
- mobility training and independence skills
- support for social and emotional development.

These elements should be jointly funded by contributing agencies with a duty to do so. The package of support should be provided across home and school.

To ensure that the statutory assessment process works, there should be:

- a single point of contact to be accountable to parents and CYP, for example moderating panels could be the accountable body
- clear long term pathways to learning with evidence on effective support strategies (curriculum and social)
- budgets aligned with the Plan, especially where agencies are not coterminous
- guarantees for early years and post 16 (outside the current statutory education age range)
- a pledge to make the 'commitment' a duty and enforceable.

The context of cuts to VI services in which these proposals are being made should not be underestimated. It will also be vital that the Government supports the necessary reforms and investment to ensure that closer working between professionals is made possible, in terms of sharing information and co-ordinating assessment.

RNIB trusts that visual impairment services will be fully represented in the pathfinder/pilots to ensure that these proposals can be tested out fully with low incidence groups.

Digital technology

RNIB's Robin Spinks introduces this issue of Insight



This edition of Insight magazine focuses on the ever dynamic topic of technology and its application in the lives of young people with a visual impairment.

Not so long ago, technology occupied our spare room, the family study or the computer room at school. Today it's at the heart of young people's lives as they learn, work, socialise and play. Digital technology is now a crucial component of socialisation in the life of any young person. The ways in which we create, share, consume and store all kinds of content is rapidly transforming. Crucially, the way in which young people connect with one another in an age of social networking is of great interest to young people, parents and education professionals.

This edition of Insight features a range of technology issues including the significance of automated transcription tools. Can emerging software and services ultimately replace traditional methods? What are the shortcomings of technology when it comes to transcription? And what does the future look like for high quality, automated transcription facilities?

How do you approach the ever popular medium of video production as part of your course if you don't have useful sight? We hear from Andy Spong about supporting a blind student to successfully undertake an alternative audio manipulation unit.

There's lots of talk about the traditional publishing industry being in demise, the high street bookshop fighting for survival, and the rise of the ebook. Dave Gunn and Andrew Homer ask "are there benefits for

accessibility in the education sector"?

And more importantly, what can be achieved now to solve the very real accessibility challenges being faced every day in education?

Just a few years ago, the mobile phone was a clunky device which people used to make calls and send text messages. As we stand in 2011 there are now more mobile devices in the UK than there are people! And the vast array of uses for mobile devices continues to expand quite literally by the day. It's often said that the mobile device has become the remote control to your life. We consider the impact of modern smart phones and convey the sentiments of 12 young people who describe their varied uses for mobile devices as well as the shortcomings of the devices currently available.

And Thomas Norton, our young columnist, reflects on the changing nature of the technology he has used throughout his education. He looks at the issue of using specialist equipment versus the increasing flexible mainstream options which are available today.

I hope you enjoy this edition of Insight. We would love to hear about your experiences with technology, both good and bad. So if you have a story to share please do get in touch.

Here's to continuing technological progress and greater accessibility for all.

● **Robin Spinks**
RNIB Digital Accessibility Team ■

Ebooks in education – a viable route to accessible information?

Dave Gunn and Andrew Homer from RNIB Centre for Accessible Information (CAI) consider the benefits of ebooks in schools

Tomorrow a class needs Chapter 4 of a book, along with a custom worksheet. Kate will need a 28 point large print version, Thomas needs them in braille and Robert requires audio. It's a last minute transcription headache which is, unfortunately, far from unusual, but could there be a single solution to meet the needs of everyone?

The press is full of talk about the print publishing industry being in demise, the traditional high street bookshop fighting for survival, and the rise of the ebook (and how they just don't smell like "real books"). So as this evolutionary process rolls along in the mainstream world of publishing, are there benefits for accessibility in the education sector?

Most importantly, what can be achieved now to solve the very real accessibility challenges being faced every day?

A publishing revolution...

Around 1436, when Johannes Gutenberg created the first printing press, he initiated a revolution which brought reading to the masses. Over the last few years we have seen the start of a new revolution in the publishing industry, in a move from printed titles to electronic books or ebooks.

Many of the technologies employed in ebooks have been around for a number of years, with roots in webpage technologies and audio publishing, among other things. Both of these areas have, over the years, seen developmental improvements to embed

accessibility, and those lessons learnt have been applied in the evolution of ebooks.

As a result the fundamental way in which the majority of ebook files are constructed is very similar to the accessible DAISY (Digital Accessible Information System) format.

Disclaimer for the digital age

While this article was correct at the time of authoring, it will almost certainly be out of date by the time it goes to print, and if you are reading this a little while after publication things may have moved on significantly.

Technological development in the ebook industry is moving at an extremely rapid pace, in terms of hardware, software and the functionality of the formats they can read. While this may appear like a moving target, and in publishing terms it very much is, there are ways in which the accessibility needs of the education sector can be met by current technology, which will hopefully see further improvements over time.

This article highlights the options available and a few of the restrictions for a few popular devices and applications, and the references at the end of this article point to the latest information on accessibility features of ebook devices and software, and related resources.

Direct access to ebooks

There are a number of factors which can affect the accessibility of an ebook, making it challenging to say definitively that everything will work – perhaps the most crucial are the

ebook construction and the functionality of the reading software or hardware.

The needs of the individual learner can be closely matched to the features available on the different types of ebook reader. This may be best illustrated by further exploring how we might meet the needs of our students.

Kate needs large print...

Virtually all hardware and software ebook readers allow the user to change the size of the text. If the text is made larger, for example, then it automatically reformats to the viewable page – in a similar way to enlarging text in Microsoft Word.

The maximum text size will vary for different software and hardware, with software typically having greater flexibility due to supporting larger screens. Popular devices like the Kindle 3 can support text up to around 36 point, however with a relatively small screen working at this size may not be very practical. The iPad offers a much larger reading area, but the iBooks app supports text up to a fairly modest 20 point. However the iPad does have a further zoom function which works in a similar way to screen enlargement software. High magnification is usually possible, but then requires a greater level of manual control to move the viewable area.

A few ebook readers also support a range of font styles and the ability to change foreground and background colours to suit the individual needs of the user, although full customisation is somewhat rare, and very much dependant on the way the ebook has been constructed.

Robert needs audio...

Most of the hardware ebook readers now support audio, typically as MP3 playback, but an increasing number also have text-to-speech (TTS) support, either using a built-in speech

processor or even through allowing access via specialist screen reading software such as Jaws.

The Kindle 3 has some TTS functionality, and allows basic book selection, and stop/start control of ebook playback. However there is no additional control or navigation with audio once within the ebook, so while it may be suitable for leisure titles (which are usually read from start to finish), it is not that appropriate for educational or reference material where navigation within the publication is essential.

In contrast, all iOS devices (iPad, iPhone, iPod Touch), have a functional screen reader built-in, allowing audio users of iBooks to perform all the same operations available to sighted users, including full document navigation and bookmarking, making them a much more functional aid for audio readers.

Desktop software is currently undergoing improvements for their screen reader support, and it is anticipated that the Kindle for PC and Adobe Digital Editions will both offer support for access technology shortly, but neither offer practical audio support at the moment.

Thomas needs braille...

It is also possible to access an ebook directly in braille by connecting a refreshable braille device. At present this feature is supported by the Apple iOS devices, and some Android devices, but it is hoped that other ebook reading devices will offer support in their next versions.

Typically, these braille displays communicate with the ebook reading device wirelessly through Bluetooth. The contents of the ebook is presented to the refreshable braille display for the user to access via the tactile interface, and typically the buttons on the braille display offer navigation control.

At present desktop ebook reading software generally does not have good support for access technology, including braille displays, however we do anticipate this changing later this year.

What content is available in ebook formats?

At the moment the pace of technological development is so rapid that publishers are working hard to keep up, and at present it appears that in mainstream publishing only the largest publishers, with the resources and funds to keep up, and the smallest publishers, who are flexible and quick to adapt, can stay at the cutting edge. Everyone else is playing a continual game of catch-up. In educational publishing things are somewhat different.

Most publishers active in pre-16 education appear to be towards the back of the pack, waiting to see how the technology evolves, and looking for reassurances of adoption before committing to ebooks.

Publishers active in Further and Higher education seem to have identified demand, and as a result are much more willing to publish digital versions alongside their print titles.

With delicious irony, the vast majority of out-of-copyright “classic publications” are already available as ebooks (eg Shakespeare, Dickens, Twain) and are available for free and legally for non-commercial use on websites such as Project Gutenberg so everyone can enjoy them.

Make your own ebooks

For various reasons not all books will be published as ebooks, and certainly not all learning material (worksheets, class notes, whiteboard visuals), so why not produce your own?

Depending on your content, it can be remarkably easy to produce an ebook which will work on your target device.

As with all good accessible formats, the key is to start with a well structured and formatted source document, which in the majority of cases is a word processed document with the appropriate styles applied. In particular, the use of heading levels coupled to a table of contents will be used by most ebook creation software to automatically produce the navigation required for a successful and accessible ebook conversion.

Freely available open source tools such as Calibre can be used to take electronic documents in various formats and painlessly convert them for use with ebook readers. For example, it is possible to take a well structured Word file and convert it to Kindle format to be read on Kindle hardware or software, or to EPUB format which is supported by almost all other ebook reading hardware and software.

Conversion of ebooks to other formats

Most staff who have supported students with visual impairments will be familiar with creating their own accessible documents, often by scanning in a copy of the original print text.

Ebooks offer another route to that text, in a structured format which can dramatically speed up the transcription process. Open source tools like Calibre can facilitate the conversion of ebook formats to an intermediary format, such as structured rich text, which can then be used as the basis for transcription to hard copy large print, braille or synthetic audio in MP3 or as part of a DAISY title.

Accessibility hurdles

As with most accessible formats there are a number of potential barriers to easy access.

The majority of publishers are protecting their ebooks with Digital Rights Management (DRM) technology, which implements technical protection to prevent people from copying and sharing ebooks. This typically prevents conversion of files, but can also require the use of a specific software reader, thereby restricting which access technology (if any) can be used.

For some formats and devices, publishers can also choose to disable text-to-speech functionality. While this is increasingly rare, it is recommended that care is taken before any commercial ebooks are purchased.

The Copyright Licensing Agency (CLA) which provided the licence under which most accessible formats are created, covers the conversion of print titles to accessible formats for print impaired readers. However it does not cover any digitally born resources. Materials can be converted under the Copyright (Visually Impaired Persons) Act 2002, for pupils with a visual or physical disability, but this does not cover other print disabilities such as dyslexia. Individuals creating accessible formats should take care to ensure they are working within the appropriate legislative framework.

What does the future hold?

This is a rapidly developing industry, with technology companies keen to capitalise on the ever-growing ebook market. The prices of mainstream ebook reading devices are already falling and formats are developing which will take full advantage of multimedia applications and easier access to the internet through the devices themselves.

Increasingly, resources are going to be held electronically. This is already apparent with the

growing number of repositories storing everything from out-of-copyright books to genealogy records and film archives. The potential for education establishments to be able to access and use this wealth of materials with all learners, whatever their individual needs, is an exciting prospect.

The convergence of EPUB with elements of DAISY scheduled for this year promises to be a turning point in the evolution of accessible ebooks. EPUB 3 will be able to easily present text and multimedia content such as audio and film clips in an inherently accessible package.

Final thoughts

The potential for any book to be accessible by everyone, at the same time and irrespective of individual needs, is now close to reality.

To conclude our fictitious scenario, the access solution for Kate, Thomas and Robert could be delivered through a single file, which is then used to provide their required reading format through the use of mainstream ebook technology. In a similar way to mobile phones becoming multi-functional devices so reading devices can provide a variety of accessible formats from one standard ebook.

So while the Gutenberg Press brought about a revolution, and ultimately text for the masses, so the ebook revolution brings its own rewards for the masses, and disability sectors alike. ■

Further information and resources:

Information on ebook accessibility:
www.rnib.org.uk/ebooks

Out of copyright and free books for non-commercial use:
www.gutenberg.org/

Free ebook conversion tool:
www.calibre-ebook.com/

Audio fun with Audacity

What do you do when the blind student you are supporting in their BTEC ICT is suddenly asked to do a video editing unit? Andy Spong shares his experience of supporting students to do an alternative audio manipulation unit

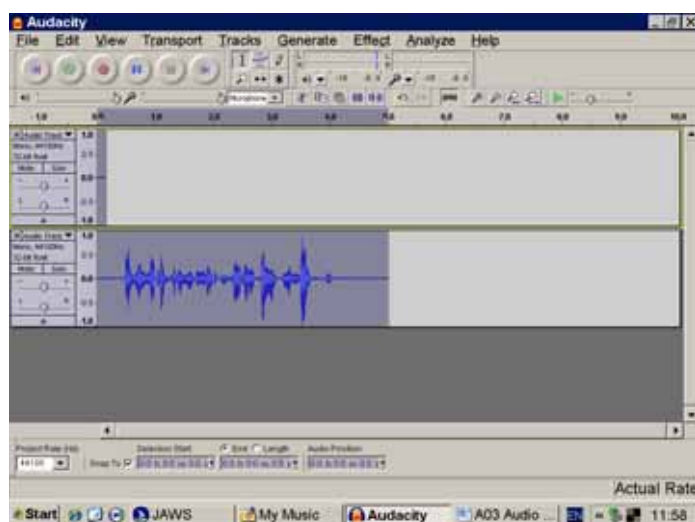
Vanessa, a blind student was studying OCR National Level 2 ICT. The ICT teacher casually announced one morning that we would be having an ICT day the following week and this would involve video editing. “Would it be suitable for Vanessa, or can you come up with some sort of alternative?” To say my heart sank would be an understatement. However I smiled broadly and responded, “I am sure I can come up with something. I’ll look at the specifications and see if there is anything suitable.”

Fortunately there was a wonderful audio unit in the OCR National called “Unit 22 Sound”. For this the student had to create an audio clip of at least 30 seconds which lent itself nicely to creating a radio commercial. I’ve always loved audio projects in ICT as it gives student and teacher great scope for fun and creativity, two elements of teaching that OFSTED seem to have stifled in favour of an unsavoury obsession with targets and levels.

The unit had four assessment objectives. The first involved listening to radio adverts and commenting on their style, content, suitability for audience and any improvements that could be applied. We had great fun reviewing some really tacky adverts.

Next Vanessa had to plan out her own radio commercial. This involved writing a script and suggesting sound effects and music that could be employed to create a suitable product. In addition we rehearsed her timings for spoken portions and worked out what lengths of sound effects she would be able to use to add interest.

Once Vanessa had written her script, she then had to collect suitable sound effects and record spoken portions of her script and then assemble all the portions into a useable audio track. Vanessa also had to take frequent screen shots throughout the creative process to prove to the examiner that she had carried out all the tasks herself.



Screen shot showing the amplified salesman’s voice.

Annotating screen shots

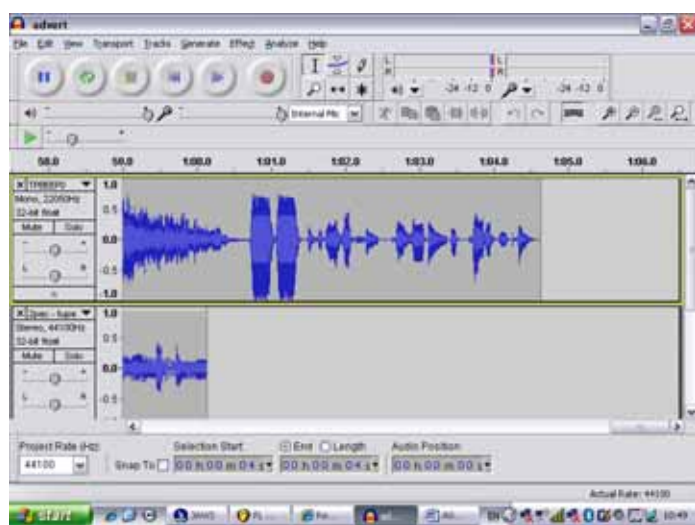
Vanessa used the Jaws screen reading package on a laptop to carry out all elements of the unit. Once a screen shot had been taken Vanessa pasted this into her word document, selected it using “Shift + Left Cursor” and then used “Right Mouse button” to select the “Format Picture” function, followed by “Ctrl + Tab” to “Web”. Another tap of the tab key took her to the “Alternative text” dialogue box where the user can label the screen shot with an alternative description that can be read by a screen reader. Once she had written the

description she pressed “Ctrl + A” to select what she had written, followed by “Ctrl + C” to copy and then tab to the “OK” button. Vanessa then tapped the “End” key, hit “Enter” and did “Ctrl + V” to paste her alternative description under the screen shot so the examiner could see what she had written.

Vanessa used Audacity
<http://audacity.sourceforge.net/> which is a screen reader accessible open source audio project to create the spoken audio sections of the advert as well as to edit and assemble all the sections of the sound clip into a broadcast quality recording.

The finished result

Vanessa was very pleased with the finished recording and went on to achieve a merit in this unit. I have to say that this was one of my most enjoyable experiences of last year. It is extremely pleasing when a blind student can be on level pegging or better than her sighted peers. This was one of those occasions and it gave me great pleasure to see a huge smile on Vanessa’s face when she played the finished



Screen shot of the end of the advert showing the audio track set to finish at just over 1 minute. This allows the important contact details to be played with extra emphasis.

advert to her classmates and teacher, all of whom were very impressed by the final result.

Fancy giving Audacity a go?

Download the Unit 22 Sound tutorial

A tutorial to help you pass the OCR National Level 2 Sound module is available to download from Insight’s homepage www.rnib.org.uk/insightmagazine

It suggests creating an advert for radio using a mixture of voice recordings, sound effects and music tracks and then blending these together to create a radio advert. Download the tutorial to learn how to trim silences, clean up crackles, increase the volume on a sound clip and put a sequence of audio clips together, all using keystrokes and no mouse. Additional sound files are available from www.spongeuk.net/tutorials

I have since refined this audio project and gone on to complete the same module with another two blind students. Jack and Lawrence, who are both at different schools, have achieved merit level and above for their audio units. You can also hear their completed adverts on the Insight homepage.

I hope that you will have a go at the tutorial and that your students get as much out of it as mine did. The project is really worthwhile and you can even have a go at modifying it to make your own ring tones, but that is another story.

- **Andy Spong**
andy@spong.uk.net ■

Young techno wizard

Fifteen year old Ashley Cox designs his own websites, built his own computer and offers trouble shooting advice. His website has just had over one million hits. Ashley, who is currently taking his GCSEs at the West of England School, talks to Insight about how he got into technology

I have a genetic condition called Leber's amaurosis, am completely blind, and have no light perception at all. From a very young age, I've been fascinated by how things work. I like nothing better than to build a computer out of old parts found at the tip, or to fix up an old hi-fi; I have virtually no interest in modern games consoles or TV. I'm heavily into programming and website design.

I began learning braille very young, and am now a fluent braille reader. When I was about seven I received a computer with Jaws. I knew almost nothing about computers then; I had a computer at school with access technology, and one at home. I knew enough to write the occasional Word file and go on the web.

Since then I've been through several computer upgrades and used pretty much every version of Jaws since 4.51, every version of NVDA



since 0.5, and many other screen readers. My 13th birthday present was an Apple Mac. Apple built in a technology called VoiceOver so that the Mac, iPhone, iPod, or iPad all come with a fully functioning screen reader. I now use a MacBook for school, and it's never let me down.

I've also used access technology for phones, including the Talks software from Nuance. While these are great solutions, as a visually impaired user I like to have the same opportunities as a sighted user, which is why I prefer Apple's inclusive approach to access. I'd rather have an iPhone, for example, than a Nokia or BlackBerry with Talks. Likewise I'd rather have a Mac than a Windows PC, unless I build the PC myself. I will never use anything that sets me apart from anybody else or makes me seem different.

Getting into web design

I got into web design and programming more recently. When I moved to secondary school, I began to realise what access and information the computer could give me. When I was about 11, we went to a local recycling centre, in search of an old hi-fi for a holiday project. We came across an old 1995 computer and, thinking how interesting it would be to explore, took it home. From this I learned all about how the insides of computers worked.

My interest in computers grew; I got a few more old computers, and began to experiment. After a while, I'd taught myself

(with help from parents) how to build computers, install and set up operating systems. I then began to explore web design. I tried many services that claimed to create your site for you, with no programming required. However these were complete failures, so one summer holiday, I set up my own site.

By this time I was constantly using YouTube, BlogSpot, MySpace, Twitter, Facebook. I wanted to be able to say I'd programmed something that's live on the internet. I began by creating a basic site in Microsoft Word. It wasn't anything fantastic; just a few pages about me, my interests, a few product reviews, etc. I got my first domain name (ashleycox.co.uk), put the files on a server, and it was live!

Becoming expert

However, I was unhappy with it. So, I started to learn how to code html. I started with the very basic HTML, gradually improving my skills. I eventually rewrote the entire site in nice hand-coded HTML.

In that six-week summer holiday, the site was redesigned three times, and completely rebuilt twice until I was happy with it.

I then learned PHP, a programming language, and began to improve the site, by adding discussion forums, polls, an "Ask Ashley" section, a newsletter, and even games. Then I created another site, where the forums, link directory are now located. The site has gone through nine major re-designs, and has improved beyond anything I'd expected. It's also recently passed the one million hits mark, something I'm very proud of.

While doing all this, I became interested in podcasting (audio web broadcasts). In December 2008, I began publishing my own podcasts, mainly about technology. You can view an old one at

www.bavis.co.uk/theactechpodcast

Interest in my podcasts grew faster than I'd expected, and I gained a relatively large number of listeners.

My influences

Most of the IT lessons at my mainstream primary were aimed at sighted learners, and my confidence using a computer wasn't that high then, but I gained a few necessary skills. At my specialist secondary school, although the IT is adapted where necessary, I've already covered the majority of it in my spare time, so I don't tend to learn as much as I do in other lessons.

My web design, programming, and computer system building skills are entirely self-taught. My parents have been a great help. Dad often helps me out with computer stuff, where sighted help is needed, for example to install Windows. I need help to fill in those security captcha codes, as web developers don't seem to feel the need to implement the audio option, even though it's readily available.

I love everything about mobile and internet technology. The way it connects people; enables people to share their knowledge with everybody; and enables web developers like me to communicate with a huge range of people in a many different places.

Getting round access issues

At times, I found certain sites and software frustrating and difficult to use. However, as I've gained computer skills, this has become less often the case. I'm very rarely frustrated at the lack of accessibility, as I've just learned that some developers clearly aren't going to read the accessibility guidelines, so I just put up with it and make sure I complain to the creator of the site as much as possible! I rarely visit websites designed for visually impaired people. I tend to stick to mainstream sites like

YouTube and Facebook, even though accessible versions of these sites are available (created by other VI developers). Both these sites still have some big accessibility issues.

This is not to say there is a work around for all inaccessible software; the only way to find out is try it. If software doesn't work, I remove it and try another program. And if a website is inaccessible, I simply use the back button.

My favourites

Other than a screen reader, I use no other specialist tools. My main day-to-day PC is a custom built, relatively high end machine, running Windows 7 Pro. I use NVDA (nvda-project.org) and Jaws as my main screen readers on this machine, and it works perfectly. For Jaws, I use several scripts to access programs that aren't accessible out-of-the-box, like Spotify. For audio and video and school work, I use a Mac with VoiceOver. This works equally as well (if not better) than my main PC.

I rarely change settings for accessibility reasons. In a few cases, changing the view options for programs can sometimes make things a lot easier. For example, getting rid of unnecessary toolbars in certain applications, disabling the preview pane in Windows 7, and disabling the favourites bar in Internet Explorer and Firefox makes navigation faster and easier.

The new taskbar in Windows 7, really speeds up productivity. You can pin icons to the taskbar, and access them with a hotkey (windows key +1 through 9, depending on the order).

Other than that, I just use normal software such as iTunes for media; Internet Explorer, Firefox, Safari, and Google Chrome Beta for web browsing; Thunderbird and Apple Mail for email; Qwitter for Twitter on Windows (I wrote

myself a custom client for the Mac); Notepad, TextEdit, and Coda for my websites. I am thinking of learning Dreamweaver next.

My recommendations

If you're thinking of trying a new tool or piece of software, ask people who have already tried it. The mailing lists on blind-planet.com and freelists.org are a great resource for visually impaired people to get information and to help each other out with problems and questions.

My top recommendation is "just try it". You can't tell if something will work for you, unless you try it yourself. If it's a free piece of software, it can always be uninstalled. If it's new hardware, listen to a few podcasts or read a few magazines or WebPages first, possibly download and read the manual for the product, and then go for it. You don't know until you try.

My essentials

I couldn't be without my Mac. It's opened up a whole world of opportunities for me. Recently, I've used it to record and edit videos of me playing drum covers that I post on YouTube. Apple's free screen reader can do so much that other screen readers just can't do. It enables people with visual impairments to edit video and images, and to communicate and share things with the community, both sighted and VI, using exactly the same tools as everybody else.

My wish list

There are a few features I'd like to see in the Mac; better table support in VoiceOver, and Office for Mac being accessible. Windows could do with some huge accessibility improvements, and so could lot of mainstream devices like mobile phones.

Technology has definitely changed the way I interact with others. It's enabled me to interact with hundreds of people, all over the world. From my blog and Twitter account, to the mailing lists and forums. And of course, the websites.

They're also pretty addictive after a while. I'm always connected to Twitter. Whatever I'm doing, almost any time of day, I can tweet or read others posts with a few keystrokes or a few mouse clicks. I follow a huge number of blogs, reading the latest news articles and tech reviews. I'm subscribed to loads of people on YouTube, from technology to music to vintage hi-fi and gaming.

I don't mention my visual impairment on my website because with the right technology it isn't an issue. None of my sites are designed specifically for VI people any more. I design my sites in such a way that anybody can use them, including those who have a visual impairment. I don't make special adaptations; I just design them properly in the first place.

After I leave school I want to go to college; that's the short-term plan anyway. I'll probably do some IT course, get an IT qualification.

I'm still not sure whether I want to work in the technology field, as music is a huge part of my life. Ideally, I'd either form or join a band, and begin a career in music. I'd love to tour with a band, play shows all over the world. It's what I've wanted to do for ages. And if not, I'm sure PCWorld have a few places available...

● Ashley Cox ■

Links

My site: www.ashleycox.co.uk

Blog: daysofthegEEK.blogspot.com

Some drum covers:

www.youtube.com/ashleycox432

Blind planet: www.blind-planet.com

FreeLists: www.freelists.org

Blind Geek Zone: www.blind-geek-zone.net

Qwitter: www.qwitter-client.net

Apple's accessibility pages:
www.apple.com/accessibility

Mac Visionaries: macvisionaries.com

BlindCoolTech: www.blindcooltech.com

Publications available from RNIB

Buy from rnib.org.uk/shop, call 0303 123 9999 or email shop@rnib.org.uk

Getting started with the iPhone: An Introduction for Blind Users, by Anna Dresner and Dean Martineau

This book shows you how to use the on-screen keyboard, a Bluetooth keyboard and a braille display keyboard. Plus finding and downloading your favourite music, scanning barcodes when out and about, checking your emails and a great deal more. Much of the advice also applies to iPod Touch and the iPad. Available in braille (TC21345B) and on DAISY audio (TC2134DCD), priced £12.99.

Social Networking and You: Twitter, Facebook, and LinkedIn for Blind Users, also by Anna Dresner

The days of having face-to-face conversations are becoming outdated. If you aren't poking someone on Facebook, or tweeting about what you are having for dinner you can feel out of the loop. This book is designed to help you learn about these three social networking sites so that you can decide which, if any, you wish to join. Available in braille (TC21342) and on DAISY audio (TC21342DCD), priced £8.99.

Making the most of mobile devices

We do lots more on our mobile phones today besides making calls. Alistair McNaught considers how we can make the most of mobiles in everyday life, study and work

It is said that the phones in our pocket carry more computing power than was used in the first moon mission. That of course depends on how ancient your mobile phone is, but there is no doubt that phones are increasingly sophisticated. We don't even refer to them as phones anymore but as mobiles, and that is an important change – for many people making phone calls is not the main activity they use their mobile for.

Jennifer's gems

Jennifer is a screenreader user studying for a degree. She uses her mobile for texting, phoning, emailing, Facebook, accessing the internet, a clock and alarm – in that order. Talks software on her phone allows her to read text messages as well as doing a wide variety of other things on her handset. She has two frustrations with Talks software – as a linguist preparing to study abroad it would be useful if Talks was able to detect other languages automatically. The biggest frustration however, is having to pay so much extra for the software. She feels that all standard Nokias should have built-in speech like the iPhone.

When asked about her hints for a visually impaired person buying a mobile she replied: "Get the person to feel a variety of phones so they can feel comfortable when they get it. It also helps to feel the size of the buttons and



the layout of the phone. In addition, it is important to do some research before hand, so that you have a list of phones you could ask about. However, it has to be said that a lot of Nokia phones which are compatible with the Talks software are now discontinued as they are old phones. Ask other people and try things out."

Matthew's musings

Matthew – studying A levels – doesn't need text-to-speech software on his Sony Ericsson. He uses his mobile for calling, texting, alarm clock (the phone one is more advanced than standalone clocks!), and a personal planner for setting notes and reminders. He is currently saving for an iPhone where he hopes to make good use of the GPS and ebook functionality. When asked about the factors influencing his choices he said: "My concerns were to get a good phone that was normal but had enough thought put in to make it reasonably accessible. This included:



- themes which were high enough in contrast for me to read the menus
- large enough print for me to read (the messaging text can be enlarged slightly too)
- a screen of fair size and great quality, but I do often need to use a small magnifier to access certain things on the phone."

Matthew makes the point that you should expect higher accessibility in a smart phone since these phones have enough screen size to justify magnification and enough processing power to justify speech.

He recommends that someone on a budget should look first at the fair-priced contract market if they have some sight. Look for adjustable text sizes, good screens and themes with colours you can see – you should find something that can do the basic jobs of a phone.

Unpacking possibilities

In both these cases, making a phone call was only a part of the way the device was used. Starting at the simplest functions of the cheapest phones we can suggest ways in which your mobile phone can offer you new ways of working and – if you're a student – studying. Try out the different functions on your phone and see what works for you. If a particular way of working makes life much easier then talk to your tutor or employer to see if they will support you in working this way. If you can use your mobile to get the same quality result in a different way then it may well be a perfectly reasonable adjustment to ask them to accept a video or sound recording instead of a written task.

Planning, organising and reminding – use calendar and alarm functions to keep on top of deadlines. If you struggle to concentrate on assignments, set yourself tasks to do in the next 15 minutes, set your alarm and then race it.

MP3 player – as well as the obvious leisure use there is great potential as a study tool. There are literally thousands of podcasts on the internet covering a very wide range of topics including the topics you are studying. This is an ideal way of doing the essential background reading that gets you those

higher grades. If you have documents you need to read and you don't want to be tied to a computer to read them try saving them as MP3 and listen to them on your phone. You can use services like RoboBraille.org to turn a document into an MP3 for listening on the move.

Camera – a built-in camera can be a great way of recording all sorts of evidence for study or work purposes. Short video clips of you performing practical tasks can be a convincing way to show you have mastered a skill that needs accrediting for work or study. If you struggle to keep up with what's on the board or make sense of papers without a magnifier, try taking photos of the board or the papers and transferring them later to a PC to use with magnification software. You can also use the camera to sort those tricky navigation situations where you regularly get lost or take the wrong turning. By photographing the area you struggle with a sighted friend might be able to help you interpret the area and understand where you're going wrong.

Voice recording – this is a very flexible tool. Use it to create reminders, brainstorm a report or assignment, make notes as you research something or capture moments of inspiration while you're doing something else. Even if you don't have a voice recorder on your phone you can use services like iPadio – <http://www.ipadio.com/> – to broadcast directly to a downloadable MP3 from a phone call.

File store – this works in different ways depending on your phone operating system but your phone can be an important way of storing documents you need. Using either an SD card, Bluetooth transfer or a web service like DropBox you can access key files (for revision or for work) any time or any place. Obviously given the small size of the

screen this works best for access via text to speech or a device with screen size and decent magnification.

Other mobile devices

For many visually impaired people, the iPhone or iPad is the device of choice as a result of the efforts Apple make to build in accessibility at operating system level using VoiceOver and zoom. This doesn't guarantee that third party applications you subsequently purchase will work alongside VoiceOver. If you want to get feedback from real visually impaired users,

Margaret McKay from Regional Support Centre Scotland South and West talks to a visually impaired and blind student about their iPhone experiences in the following videos.

www.rsc-sw-scotland.ac.uk/case_studies/CaseStudies.htm#central1

www.youtube.com/watch?v=4kVLGDU8F6E

- **Alistair McNaught, JISC Techdis service**
www.jisctechdis.ac.uk ■

Many thanks to Jennifer Murray,
Matthew Clark and Margaret McKay

My phone and me

Insight spoke to 12 young blind and partially sighted people aged 12 to 17 from New College Worcester, to find out how they use their mobile phones today. All agreed that they used their mobiles in a number of ways. In addition to texting (all 12) and making calls (11 out of our 12), the most popular uses of the phone were for taking photos (7 used the phone in this way), listening to music (7), and using the clock (7). Next popular came using the calculator and accessing the internet (5 users each). A quarter of our group said they used their phones to access email, play games or visit YouTube. One young person loved to use GPS on his phone to help him get around. None of our group had yet tried downloading a book onto their phone.

The group offered their thoughts on how mobile technology could be improved for them and highlighted that increased accessibility was key:

"Phones could have more access for large print readers and bigger buttons to make sure people who can't use their hands well can access them." Jessica, 16

"Phones could be improved by lowering the prices so I can use what I really need."

Lizzie, 14

"My phone needs bigger writing and not to be so slow."

Livvy, 12

"Magnification or bigger print would be helpful to me."

Nick, 17

"Accessibility in technology should be a higher concern from the very beginning of the design process. This does not have to come at the cost of other users, but just enable visually impaired people to have magnification that follows typing and menu options, and/or voice output which will read all of these things and enable you to read from any point onscreen just as a fully sighted person could." Matthew, 17 →



Accessible mobiles – embracing the challenge at RNIB

Clearly, the mobile device is going to continue to play a very significant role in the lives of us all. As more and more content goes online and as people increasingly use digital as their default medium, we are going to see all sorts of new uses for the mobile device.

At RNIB, we want to ensure that the benefits of mobile technology are open to people with sight loss. To this end we are engaged in an exciting programme of advocacy with mobile device makers, software developers and mobile operators and retailers. We want to see a step change in the whole experience of choosing and using a mobile device. Over the next couple of years, we are confident that we can bring about significant benefits for blind and partially sighted phone users, like our young people above.

Working with Blackberry maker Research in Motion (RIM), we recently saw the release of Clarity Theme for Blackberry devices. This free theme is available from Blackberry App World and is compatible with seven current Blackberry device models. It allows a low vision Blackberry



user to have a significantly more accessible experience, enlarging the user interface and displaying all system fonts in clear, large white text on a black background. Many of you have told us that this theme makes the user experience much simpler and easier.

Bringing phone confidence

At RNIB we want to turn fear of mobile technology into confidence with mobile technology. To help us do this, we've recently launched PhoneWatch, a brand new series of monthly events where we showcase the latest innovations in mobile technology.

Each PhoneWatch session lasts for two hours and we welcome up to 20 blind and partially sighted people along with representatives from the major UK mobile networks. We also welcome device makers and software developers with many using this opportunity to engage with our members and share prototypes of new solutions. So far we have run PhoneWatch events in London and Belfast, but we are actively working on a plan to roll these out to other areas. For details of up and coming events, check the events section at www.rnib.org.uk

Tell us about your favourite app!

Two years ago, most people wouldn't have heard of the term app. But today apps (or applications) are in use everywhere and they're used for all sorts of different purposes.

Our new App of the Month feature showcases apps which blind and partially sighted people have told us about. We'd love to hear from readers about apps that have made a difference to your life or the life of those you support. Simply email us at digitalaccess@rnib.org.uk

- **Robin Spinks**
RNIB Digital Accessibility Team ■

Assessing for success

Tracey Fillan and Rosie Murphy from Fairfield School in Batley provide ICT and communication aid advice and assessments for children with special needs across Kirklees. Their outreach team has an extensive assessment kit with high and low tech equipment, but increasingly look to new digital technologies to provide accessible and motivational solutions

Getting the right technology in place can make a real difference to learning outcomes for young people with disabilities.

We provide an advice and assessment service for children who have physical and/or communication difficulties. This may be to enable them to communicate more efficiently, to access technology, to record independently and to support their learning and understanding.

How the assessment process works

- Following an initial referral from the local authority or school direct, we visit the pupil in class and discuss with staff and pupil challenges being faced.
- A pre-assessment form is completed detailing crucial information about the pupil, such as seating requirements, communication methods etc. We ask for copies of the Statement and therapy reports if appropriate.
- An assessment meeting is arranged at the school involving pupil, parents, therapists, school staff, and, if the pupil has a visual impairment, QTVI/ VI technician.
- We bring along equipment fully-charged, and, if appropriate, pre-programmed to suit the pupil based on the information we have.
- One team member acts as the key assessor engaging with the pupil and initiating responses about what equipment works for

the pupil, and what can be eliminated. The second team member observes, makes notes and takes photographs/video for our report.

- The process can be tiring so pupils take regular breaks to ensure a correct outcome. Suitable outcomes may not always be decided on the first meeting.

Before recommending a device we consider:

- Access – what method of access is easiest for the pupil?
- Sound – is the level of sound loud enough for the pupil's environment?
- Voice – are the available voices suitable and appropriate?
- Portability – is the device of the correct weight and size for the pupil's needs?
- Is the device easy enough to use/programme and will it cater for the pupil's needs now and in the foreseeable future?
- Is the pupil motivated to use it?

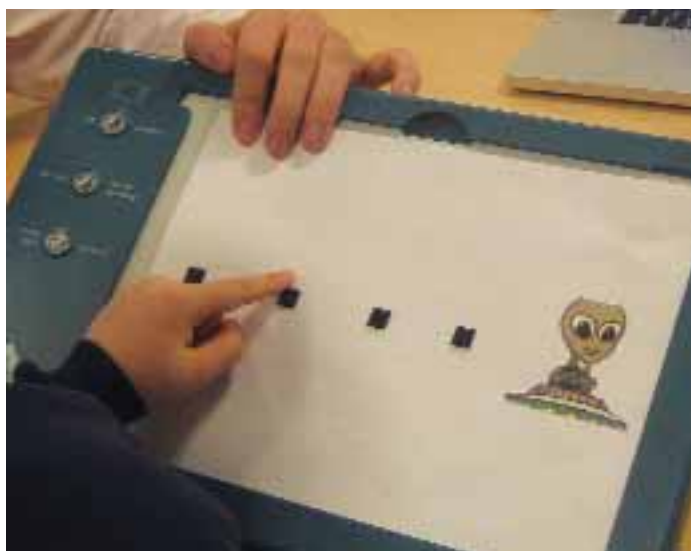
Making a difference

The following case studies illustrate some of the ways in which we've been able to support and motivate young learners. For some learners innovative new devices like the iPad offer motivating and viable alternatives, but these are not necessarily the best solution for everyone.

Paulie and his Intellikeys Board

Paulie, who is seven, had acquired brain damage and was blind following a road traffic accident. Paulie had weakness in his right hand and arm, but was gradually regaining some strength in his left. When we met Paulie he was having difficulties walking and with manual dexterity. Paulie had recently returned to school after 18 months in hospital. We were asked to have some input alongside the Occupational Therapist, Physiotherapist and VI service.

Paulie's assessment began with trialling the Braille Note, but this presented a lot of challenges for him and he struggled to feel the correct keys. A laptop with Jaws speech access software was also tried, but again manipulating the key proved difficult. We discovered through trialling various pieces of equipment that the Intellikeys Board was the most appropriate method of access for him. We put on an overlay which helped him develop his sense of touch and work left to right. He began by feeling large textured squares as part of a number song with the full song playing when he reached the end.



Having discovered the easiest access device for him we ended the assessment for that day and made recommendations. These were:

- To develop fine motor movements through practising daily exercises and working on a music keyboard.
- To continue to work on the Intellikeys Board – the VI technician to make specific overlays for him similar to the one shown at the assessment.

Two months later we saw Paulie again to assess his development and work out strategies for the future. In the intervening time his spatial awareness and memory had developed as well as the dexterity in his fingers. This time he was able to feel small bumps and work left to right. He also knew if he had missed one and could correct himself. His progress was astonishing. It was determined that Paulie was ready to start learning braille.



Today Paulie is developing a good braille vocabulary and continues to use the Intellikeys Board for some of his school work. He is keen to learn and develop his skills and will soon be getting a Braille Note. He has been able to remain in mainstream school and is regaining skills on a daily basis.

Bisma and her iPad

Bisma was having a difficult time in her mainstream high school. Her visual impairment meant that she was unable to access the

school computer in the same way as her peers. But Bisma was keen that any equipment she used didn't single her out from her classmates. We decided to show her the accessibility options available on the iPad beginning with VoiceOver. This is a gesture-based screen reader which allows the user to explore the device through touch. Bisma was able to activate the iPad by touching the screen to hear the item's description, then gesturing with a double-tap, drag or flick to control the function. VoiceOver also gives information about battery level, network, signal level and time of day, as well as telling you if the screen is in portrait or landscape mode and the location of the 'home' button. We showed Bisma how to adjust the speaking rate and the volume. VoiceOver can be used to browse the web, chat, send and receive emails, use iTunes, edit text documents and in conjunction with iBook.

We showed Bisma how to use the iPad's Zoom feature which allows the user to magnify the screen by using the scroll wheel on a mouse, a trackpad gesture or keyboard commands. Magnification can be applied to text, graphics and even video. Bisma also chose to make use of the White on Black feature of the display which can be used in conjunction with Zoom and VoiceOver.

Our assessment concluded with the recommendations for an iPad with a sturdy case using the inbuilt applications for school use and an iPod Touch for home use as that would be more portable for social situations. Bisma was thrilled to think she could have an iPad and iPod and be able to use them for her music and the internet as well as school work. A satisfied customer indeed! The school was also delighted as these tools are a cost-effective option.



Greater accessibility for all

While new technologies are not necessarily the right option for everyone, it's true that the arrival of technologies like the iPad, iPod Touch and iPhone has seen accessibility improve dramatically. Standard features on these devices mean we that we are finally seeing mainstream equipment being used for all. The students we recommend them for are delighted to be using the same equipment as their peers, and these devices, even with additional apps (like the excellent PROLOQUO 2 GO app notably proving very popular with high school students needing a communication aid) are often a much cheaper option than specialised equipment.

- **Rosie Murphy and Tracey Fillan**
Fairfield School Outreach service ■

For information on the training we can offer in AAC and ICT as well getting the most from iPod and iPad visit www.fairfieldschool.co.uk

Intellikeys Board is available from:
inclusive.co.uk
For a list of apps visit:
appsforaac.net/applist

Functionality for Functional Skills

A new accessible Initial Assessment toolkit for Functional Skills English and Maths is being developed. Sue Grewcock, Project Manager at Action for Blind People, describes the development of the toolkit through the Skills In-Sight project, which has looked at an alternative approach to the way on-screen initial assessments are designed

Functional Skills include the core elements of English, Maths and ICT that aim to provide learners with essential knowledge, skills and understanding to support them in life and at work. They aim to ensure learners not only have the academic capability of Maths, English and ICT, but are also able to demonstrate how to use and apply the skills in practical settings.

Since August 2010 Functional Skills have formed part of four qualification routes for 14–19 year olds: GCSEs, Apprenticeships, Diplomas and Foundation Learning.

Aside from the increased use of technology to support teaching and learning in schools, colleges and Universities, a greater emphasis is also now placed on technology to support the assessment process. 'E-assessment' or 'Online assessment' are now commonplace within education environments.

But while the prospect of completing any form of assessment can be daunting for a learner, the practical implications for a VI learner of using on-screen versions can be more problematic.

The questions below are examples from current on-screen Maths and English Initial Assessments:

'From the image shown, how long is the piece of card to the nearest cm?'

'Match these lower case letters with their upper case partners by dragging a line from one to the other.'



The answers here rely on how well students can access the question, as much as subject knowledge. Previous similar qualifications including Key Skills and the Adult Core Curriculum have similar accessibility problems for on-screen initial assessments.

The Skills In-Sight Project was launched in August 2010 when the Action for Blind People, Innovations and Projects Team identified accessibility issues for learners required to complete the initial assessment of Functional Skills. The project received funding from the Learning and Skills Improvement Service (LSIS).

So what is involved in the Initial Assessment process?

An Initial Assessment process has two phases. An Initial Assessment gauges the current working level of the learner. A Diagnostic Assessment phase then identifies specific learning strengths and learning development needs.

There are a number of benefits associated with using an on-screen Initial Assessment:

- easy to administrate
- cost-effective to purchase and deliver one process
- option of simultaneous testing, thereby reducing time and staff requirements
- computer generated results
- benchmarked results
- can be adapted around the organisation's own resource availability.

However, research conducted as part of the Skills In-Sight project identified that FE Colleges and Specialist VI Colleges within England described current on-screen initial assessments as largely inaccessible. Many on-screen assessment toolkits have a magnification option; however, images can lose clarity if not correctly designed and are not always compatible with assistive technology. In addition there can be operational issues for the learner, such as screen movement.

The research also found that colleges often used support staff as a 'human reader' to read and describe information and diagrams to individual learners. For some this process seemed to make the assessment more a test of memory than an identification of subject knowledge. In some circumstances, where alternative formats were unavailable, questions were disregarded altogether which impacts on the overall results for VI learners when compared to their sighted peers.

One user's experience

Jane has Stargardt's disease and glaucoma and is working on Functional Skills Maths Level 2. She shares her experience of computer and paper-based resources:

"I tried to complete the Initial Assessment for Maths using the computer but found it very

tiring for my eyes. I use magnification software and had to search the screen to get the information. With the number of unnecessary images and layout of the questions it made it harder. Just trying to identify where the question was, if the picture was part of the question, and how to input the answer meant that it was a very visual process and took a long time to complete just a few questions."

"For the Diagnostic Assessment I had a paper version which had been photocopied a number of times and it meant that I couldn't answer some of the questions as they were unclear. One question was to measure in millimetres and because it was small and unclear due to the photocopying I could not read it."

Developing an accessible toolkit

The Skills In-Sight Project is intended to combine the on-screen toolkit with alternative resources. For example if a learner wants to re-read a question they will have the option to use the on-screen version, large print or braille, depending upon their own preferences.

The new, accessible assessment process will involve:

1. On-Screen Needs Analysis

This is completed by College staff with the VI learner to identify appropriate resources and alternative formats, including: print size, colour contrast, braille proficiency, tactile ability, computer competence, assistive technology preference, and additional support equipment.

2. Initial Assessment using on-screen and identified alternative formats

3. Diagnostic Assessment using on-screen and identified alternative formats

The range and type of alternative formats will include uncontracted (grade 1) and

contracted (grade 2) braille; large print in a range of font sizes; and tactile diagrams with braille, print and audio labels.

In addition to on-screen layout, consideration has been given to assessment criteria and question phrasing reflecting the following considerations:

- Which criteria are being assessed?
- How can the VI learner show their knowledge?
- What is the logical layout of the question and information?
- Is an image, graph, table or chart essential?
- Is the question at the appropriate level?

Feedback from the prototype on-screen assessment toolkit

“It just scrolls down the screen so the amount of movement is reduced. The layout is simple and not cluttered or busy.”

“The ‘Notes’ section in maths means that I can work more independently.”

“I do not have to keep asking for it to be read out again, I can choose what to hear again.”

The future

Although this project is looking at one particular aspect of the education curriculum it is hoped that it may act as an example of good practice on how to design inclusive on-screen education resources.

- **Sue Grewcock**
sue.grewcock@actionforblindpeople.org.uk ■

The final version of the Skills In-Sight Project toolkit will be available through the LSIS Excellence Gateway website www.excellencegateway.org.uk from February 2012.

Braille puzzle book

“Have a Look at This!” is a fun, new book which uses enlarged print and a braille font to guide the sighted reader through the braille code. Twenty-one bitesized sections invite readers to complete gapped sentences, decipher dreadful jokes and solve simple logic problems. Written by Jill Pemberton, former Braille Tutor at Bolton Community College, the book aims to offer the beginner an insight into braille. Priced £8 (including postage) available by emailing: havealookatthis@btinternet.com

We have a FREE copy of Have a Look at This! for one Insight reader. To be in with a chance to win it email your name to insightmagazine@rnib.org.uk by 1 August. In return we'd like you to write a short review for the magazine.

New phonetic braille reading scheme

“Hands On” is a new phonetic contracted braille (grade 2) reading scheme for 2011, replacing Braille for Infants.

Hands On is divided into five levels and includes 32 practice books, each introducing a letter, contraction, punctuation marks or numbers, as well as booklets of fun activities and real stories. The new material has been linked as closely as possible with the Letters and Sounds framework, while not compromising the need to keep tactually confusing braille signs apart.

To be notified when Hands On is available to order, email education@rnib.org.uk

Accessible formats – can automated systems replace expert transcribers?

Sarah Home and Dave Gunn, RNIB Centre for Accessible Information, discuss the benefits and limitations of automated transcription

Producing accessible formats can be time-consuming, detailed and costly. Transcription is sometimes seen as a dark art, shrouded in complex and occasionally unwritten rules. So it is only natural for people to look for quicker cheaper solutions. An increasing number of offerings claim to provide swift automated transcription.

Over the last few years we have been evaluating conversion tools and automated systems, developing production guidance and working with developers to help improve their transcription products.

Resource pressures

All organisations are feeling the pressure of financial cuts. For transcription, this often results in identifying where automated systems could speed up production, save money or run with fewer staff. So does transcription still require expertise, or could anyone produce accessible formats using the right technological tools?

Abacadabra?

The production of accessible formats has undoubtedly improved over the last few years. Converter tools used to rely on the user manually inputting specific codes or instructions in the software to “force” format changes. Now converter tools are smarter and can “map” styles and formatting from source documents to accessible formats. For example if a Microsoft Word document uses styled headings, these can automatically be

recognised and represented appropriately when the file is converted into braille or audio.

A number of one-click software or online accessible format conversion services now promise fully automated transcription of documents into large print, audio and braille. However, they aren’t always able to deliver on that promise.

Current practice

Human transcribers increasingly use conversion tools to speed up the transcription process, by focusing on generating well-structured source files. Yet, depending on the complexity of the content and the output format, some manual intervention and correction is needed right through to production.

Conversion software is much loved and very helpful for basic content, so where does it start to have challenges?

Context and meaning

Even the best software has at its core, a collection of rules: if “A”, then do “B”. These rules quickly become very complex, especially in relation to interpreting meaning.

For example:

A minus sign, hyphen and dash can all use the same keyboard character “-”, making it challenging for software to interpret which the audio or braille version of the document should indicate. Many English words are pronounced in different ways depending on

context, “I was reading at Reading library” or “Now the system is live, it should live for many years”, making it challenging for synthetic audio to always pronounce words correctly.

Finally, interpreting the context can be key to how it’s represented. Particularly in an educational setting, it is essential that the reader can tell the difference between a date and an equation or fraction (eg 3/4).

The way information is presented in print may appear straightforward to a sighted reader, but transcription software can find it challenging to interpret the context to convert it correctly for an accessible format.

Evolving standards and guidance

Standards governing accessible format production are thin on the ground, and transcription units tend to develop their own formatting guidelines to ensure some consistency.

Braille has published standards governing its use, but some braille rules are ambiguous and open to interpretation, so transcribers often have to make a “best guess” on how to represent print in braille. DAISY standards for audio have been developing over the last few years and transcription software promoted as adhering to DAISY standards does just that. The lack of large print standards means that transcribers tend either to follow best practice guidelines published by other organisations, or write their own.

Where rules do exist they are not always written for computer interpretation, with many offering guidance and options, rather than unambiguous direction.

The newly-formed UK Association for Accessible Formats www.ukaaf.org aims to develop standards, publish guidance and promote good practice for the creation and

use of accessible formats. UKAAF subject task groups are working on minimum standards and production guidance for clear and large print, audio and braille, with the future potential for more automated transcription in mind. All these guidance documents will be available to UKAAF members free of charge.

Emerging software and services

Over the last few years a number of organisations have launched products which produce a whole range of accessible formats, and there are several tools that plug-in to mainstream software which can be used within current transcription workflows to produce accessible formats.

A number of online conversion services now offer to transcribe text into accessible formats. Some online services charge and others are free. Some automatically transform an electronic file and send the file back to the user to physically produce the hard copy; others convert an electronic file, produce the hard copy and send it out.

These services are often marketed to organisations and individuals who don’t have a way of producing accessible formats themselves, or who are seeking ways to produce accessible formats more cheaply and quickly.

What do conversion tools do well?

The technology behind the online tools, dedicated installed software and mainstream software plug-ins is essentially similar. Here are a few tips to get the best out of any automated system:

1. Keep it simple

Most conversion tools are designed to process straightforward passages of text. Anything outside of basic text (including postcodes, web or email addresses) may pose challenges.

2. Keep it structured

Mark-up your document using styles formatting before sending it for conversion. This enables you to define the headings, paragraphs and identify other components within your document.

3. Keep it consistent

Bills and bank statements are ideally suited for automated conversion because the software can be told exactly where in the document to expect different types of information. The postcode for example always appears in the same location. If you convert similar information numerous times, there may be ways to work with the conversion tools to optimise the process.

4. Keep checking the output

It is essential to continually test the results of any automated, or semi-automated process, especially in the education sector where errors can have serious and lasting consequences for learners.

Where do conversion tools struggle?

While conversion tools are steadily improving, they all struggle to process certain types of information effectively:

a) Complex information

The more complex the content the harder it becomes. Representing even something as simple as sub-script or super-script in large print can be challenging enough, but depending on the source of the maths it can be almost impossible to accurately convert to braille or synthetic speech.

b) Graphical information

Unfortunately there are no automated shortcuts for graphical information, short of removing the image and replacing it with any alternate descriptive text, if supplied. Graphical information that is added to your

document to aid styling, or show connections between information (eg Word Art) can cause serious problems or even break the entire transcription process.

c) Rich layout

Anything outside a basic single column document may cause problems. Tables, multiple columns or text boxes may be misinterpreted or ignored completely by conversion tools.

In almost all instances the most effective documents produced by converter tools are ones from an optimised source document, designed and built to deliver content in the most appropriate format for that tool.

Having evaluated some of these services, their strengths are in the conversion of simple texts, and they tend not to cope well with tables, graphics, technical coding (such as maths), alphanumeric information, lists etc. In some cases documents can be reformatted and rewritten to a form better supported by the converter tool. However in many instances this is the same transcription process practiced by professional transcribers, who already have the capability to produce outputs of an arguably high quality, and more consistent than fully automated conversion tools.

What have we learned?

We are all under increasing pressure to produce more with fewer resources. Increased marketing of “quick fix” transcription solutions to budget holders can give the impression that money can be saved (and staff numbers can be cut) by switching to more automated transcription methods.

Automated solutions certainly have a role to play in the future of transcription, but at the moment only the most basic text will be converted accurately and will not need expert intervention to fix common transcription errors.

English is a complex language when represented in print, and reading involves interpreting information within its context to determine its meaning. Something which is very challenging for an automated system to perform.

Once the software has interpreted the document it has to apply rules for transcription. Some rules are open to interpretation and not currently optimised for automated application.

And in the future?

Technology and standards are improving all the time, and semantic analysis and mark-up protocols, along with clear guidelines and standards from UKAAF will ultimately improve transcription for everyone.

We estimate it will be at least five years before we see any significant leaps in functionality of automated transcription solutions for anything but basic content. Even then, we anticipate there will still be a role to play for expert transcribers in education where the need for total accuracy of information is imperative.

The development of large print, audio and braille user-friendly production guidance will help transcribers to be clearer about how print should be represented. Providing clear guidance on layout, removing ambiguity and the need for context specific rules should speed-up production and increase confidence in converter tools.

Getting the best results now

There are however things that we can do to improve our transcription processes – small changes to the way we work can make a big difference to the volume and quality of our outputs. Learning to use styles and formatting in your word processing software will help you to generate good quality source documents

that can ease the transcription process for many different formats – benefitting current and future learners.

The developers of transcription tools also have a key role to produce clear and accurate guidance on the use, capabilities and limitations of their tool or service. This will enable users to make the most of their software or service to produce the quality results required.

Semi and fully automated transcription processes are certainly the future, and will allow for a dramatic increase in documents available in accessible formats. However professional transcribers continue to be essential, and provide the skills needed to guarantee the quality of resources required for education.

- **Sarah Home and Dave Gunn**
RNIB Centre for Accessible Information ■



VIEW update

VIEW is the professional association for anyone whose work involves the education and development of children and young people with visual impairment

VIEW continues to work with a number of organisations including NatSIP (National Sensory Impaired Partnership) on specific projects. We are also linking with RNIB on their consultation on the SEND Green Paper and have recently carried out our own consultation via a discussion forum on the VIEW website.

Online developments

As our membership continues to grow we plan to upgrade our website within the next few months offering more opportunity for members to contribute and share information. We are also hoping to improve the method of enrolment so that this can all be done

electronically including payment through PayPal and reminders sent electronically.

Future conferences

The VIEW Conference Committee met recently to start planning for next year. NatSIP has carried out a survey to see if joint conferences are the way forward and we will be paying close attention to the results of this survey.

Special interests

In early July we are meeting to agree which project/special interest groups VIEW should support. It is expected that each will have a named VIEW member as lead who will report via the website on work undertaken in return for financial support with expenses. Special interest areas currently being explored include:

- Braille Literacy Group
- Exams and Assessment Group
- Chartermark Quality Standard for Services

For further details of VIEW's work and how to join or offer your time go to www.viewweb.org.uk ■

VITAL network update

VITAL (Visual Impairment Touches All Learning) is a network for professionals with an interest in children with complex needs and visual impairment

The network comprises regional focus groups that meet twice a year for training, professional development and networking. There is a £10 fee per person to attend group meetings, and people from all backgrounds (education, health and care) are welcome to attend. Please register by emailing vital@rnib.org.uk

Regional focus groups

We currently have four regional focus groups:

- VITAL London and South East
- VITAL West Midlands

- VITAL South West
- VITAL South Wales

The **East Midlands** is the geographical base for a lively national **MSI** (Multi-sensory impairment) **network**. Details from miranda.brookes@leicester.gov.uk

To join a regional group, please email vital@rnib.org.uk Find out more about VITAL by visiting www.rnib.org.uk/vital ■



Oral care and children

This article offers strategies for supporting children through what can be a challenging aspect of personal care. Ginny Tyler begins with a look at supporting children with complex needs. We then offer more general suggestions for good oral care at home

Oral care and children with complex needs

Children and young people with complex needs and sight loss present a particular challenge to oral health services. If the young person cannot understand what is happening and is unable to use verbal communication, or where there is increased sensitivity to physical contact, the business of dental examination can be difficult.

Dentists are one of the few professionals who we permit to enter our personal space. Most people find this uncomfortable but understand that the dentist needs to be so

close in order to examine teeth. For children with complex needs this close proximity may well be extremely distressing, and particularly so if the child is sensitive around their face and mouth.

In addition some children, particularly with autism spectrum disorders, may have excessive, reduced, or even paradoxical responses to sensory stimuli. The quantity and intensity of visual and auditory stimuli may result in children having difficulty in attending to instructions and information. So, in simple terms, the colours, noises and smells in the dental clinic may prove a huge distraction and make explaining what is happening very difficult.

Supporting a child with complex needs at the dentist

- Explain slowly and carefully each step. Use short, clear statements, or familiar communication tools such as objects of reference.
- A sequence of symbols, pictures or photos that show the stages of going to the dentist, and which can be covered up in turn, will help a child to understand when a step is finished and what to expect next. A reward picture at the end of the sequence is something to look forward to.
- Help the child to understand that the experience has a time limit. Use visual or auditory timers so they can monitor the length of the experience. Some young people may wish to be informed when the treatment is half way through.
- A comforter, such as a piece of material or a toy, can help to occupy or distract a young person. For some listening to music can act as a good blocker.

Jenny's story

Care staff have been working with fourteen year old Jenny on her teeth cleaning and oral care routine. Jenny is a student and resident at RNIB Pears Centre for Specialist Learning. As Jenny is extremely hypersensitive around her face and mouth, staff need to use a significant level of physical intervention to support Jenny to have her teeth cleaned. At Jenny's reviews with her parents, social worker, and senior management, commitment to a regular teeth cleaning programme has been agreed with the aim of ensuring Jenny's teeth will be healthier, that episodes of gingivitis will decrease, and that she will be able to retain most of her teeth into adulthood.

Jenny's oral care programme

During morning and evening routines, Jenny is encouraged to have her teeth cleaned with a small sized, soft-bristled toothbrush, using a small amount of dental gel and regular toothpaste.

Jenny sits on the bathroom chair where she usually gets dressed. Staff ensure nothing is happening to cause distress for her such as a tap running or dripping. Jenny is then told that it is time to brush her teeth.

Jenny is asked which second member of staff she would like to support her in brushing her teeth. Jenny enjoys calling out for a member of staff. She is then asked which song she would like staff to sing.

One member of staff then holds Jenny's hands. As she may try to prevent this, her hands are gently taken and placed and held on her lap. The second member of staff will place the toothbrush so that it is touching Jenny's lips. When Jenny is reminded that "we'll start singing when you open your mouth" she is happy to open her mouth to allow the toothbrush in. As brushing begins both members of staff then sing the chosen song. The song is quick as Jenny can only tolerate up to 10 seconds of teeth cleaning.

Jenny is given lots of praise, claps and calling her a star when she opens her mouth to have her teeth cleaned, and she enjoys this. Other members of staff are told how good Jenny has been and her positive work is recorded in her daily record sheet.

- **Ginny Tyler, RNIB Pears Centre for Specialist Learning** ■

For guidelines and resources for supporting people with complex needs in their oral health visit www.bsdh.org.uk/guidelines.html →

Good oral health for children – what you can try at home

Brushes

A wide variety of novelty toothbrushes are available from pharmacies, supermarkets and your dental practice, including ones that reward brushing movements with music. A brush with a soft and small head reaches into the corners and gaps and gives a more effective clean.

But don't be afraid to adapt and customise. You can bend a toothbrush under the hot tap to make a shape more suited to your child's grip. Or insert a toothbrush into a tennis ball for a wider grip area. Add handlebar grips, as you might for a bicycle, or try wrapping a rubber band round the handle to make it easier to grip. If the head is too big try cutting away half of the bristles with scissors to make a smaller brush.

Toothpastes

Not all children like mint! Try the fruity flavours, or paste with added sparkle. Getting started is more important than sharing your child's taste in toothpaste. Use a toothpaste containing fluoride and get the amount of toothpaste right – too much will encourage swallowing, which it's best to avoid. Children up to three years old only need a smear, and those over three need a pea size blob that just covers the colour strip in the middle of kids' brushes. After brushing your child can just spit, don't rinse, so the fluoride can keep strengthening the teeth.

Share the brushing

Most children do not have the manual skills needed to brush effectively in all areas of their

mouth and gums until at least the age of seven, and many continue to need adult help. It is important to supervise brushing until you are confident that your child can do an effective job themselves. Encourage your child to have a go and then tell them you are just going to "polish".

How to brush someone else's teeth

Stand behind your child, as it's hard to get the right angle from the front, and is less confrontational and more reassuring. Try to stay relaxed and gentle. This position is also easier if your child won't open their mouth – you can gently pull down on their jaw and they will naturally open their mouth.

How much brushing?

Ideally your child's teeth should be brushed twice a day for two minutes. It's a surprisingly long time, so it's helpful to use a timer with a fun ring or beeps, or wind up a musical music box or sing a favourite song for the two minutes. Last thing at night is the most important toothbrush of the day, so parents should at the very least have a hand in this one.

There's no need to scrub. Gentle brushing is more effective and kinder to the tooth enamel. Make it into a game. A few minutes of interactivity may seem a long time in a busy night routine but will make it fun rather than a fight – and the fight might last longer.

An extra layer of protection can be provided with fluoride varnish on your child's teeth – ask your dentist. This should be applied at

least every six months though some children have it applied three or four times a year.

My child refuses – any ideas?

Don't get hung up about brushing teeth in the bathroom – try any room – or camping style out of a cup. Some children prefer to use a dry toothbrush without water and feel more in control of the froth! Try all your usual ways to motivate, perhaps offering a story, song, or watching a TV programme or DVD as a reward.

See if your child can cast snowflakes on the mirror – flicking the heel of the brush against the back of the teeth to spray the mirror. Sorry, but it works for some and makes the wiping up worth it! Tell your child it's time to wash their face inside and out...

Reinforce good brushing behaviour

Talk to your child – can you hear the “crunch” of good brushing? If using an electric brush – can you feel the buzz? Talk about how their teeth feel before brushing and how they feel afterwards.

If your child can suck a sweet slowly and safely, try a “disclosing” dye tablet. It's a good way to show plaque, or the areas that need to be cleaned. It colours the plaque on their teeth usually in blue or red until you brush it away. It's a good tool to use to show before and after good brushing. You can also try a dye tablet a month later to see if your child's good habits, or your extra efforts, have led to less plaque build up. Beware – the dye can stain clothes and tongue for a bit but it looks good at Halloween!

Children with a severe visual impairment may not pick up on the social importance of clean teeth and may need to be taught that poor dental hygiene is unattractive and obvious to

their peers. For older kids reinforce the benefits of a clean white smile and fresh breath – makes kissing more likely and more enjoyable! For teenagers it's good to introduce flossing. Try out a horseshoe with handle or a fun shark dispenser.

Diet and teeth

Healthy eating is important too. Avoid drip feeding sugary snacks and drinks throughout the day. Try not to use sweets and sugary food as a reward and start on healthier snacks from a young age, such as carrot sticks. Safe drinks are water and milk. Natural fruit juice has a high sugar content and is better diluted 1:10. And diet cola? Just avoid it is the dentist's advice! If your child is having a sugary drink it's best to have it with a meal. Finishing a meal with a drink of milk or cheese is a good way of neutralising any sugars or acids.

If your child is resistant to having treatment then ensuring that diet and daily hygiene promote healthy teeth and gums becomes even more vital. Pay special attention to reducing sugar in the diet, especially hidden sugar, such as in breakfast cereal, ketchup, spaghetti hoops and so on.

Visiting the dentist

Start good oral hygiene, brushing twice a day as soon as the first teeth erupt. A toothbrush makes a great early teether, and helps your child make friends with it!

Then visit the dentist as young as possible, if only for a sit or ride in the chair. If you are concerned that your child may not be willing to have their mouth examined, it can help to visit the dentist on your own beforehand and talk to them about the best time of day for your child, and what approach they might respond best to. →

For a child with little vision it's important for your dentist to explain noises such as the suction, or a drill they can hear in another consulting room. Providing a commentary on what is about to happen, avoids the shock for a child of suddenly feeling an instrument entering their mouth that they haven't seen approach. Explain to your child that the dentist wears gloves and that's why their fingers taste funny! Some dentists will let your child handle an instrument such as a small angled mirror to help them understand how the dentist sees inside their mouth.

If bright lights or the glare of the squeaky clean clinic surfaces are uncomfortable, your child might like to wear sunglasses under the protection goggles. If your dentist normally gives children a sticker and this has no

meaning for your child, consider bringing along an alternative treat.

Be assertive. If your dentist won't support you – then change dentist or ask about specialist dentists in your area for children with special needs. With good oral hygiene and regular check-ups your child is less likely to have dental problems and there is less possibility of associating the visits with negative experiences.

Many thanks to Richard McCallum, Head of Oral Health and Julia Wilkinson, Health Promotion Coordinator from the NHS Nottinghamshire County's Oral Health team
oralhealth.promotion@nottspct.nhs.uk ■

The best of both

Working together to support children with visual impairment and additional complex needs

A series of leaflets exploring ways that the QTVI (Qualified Teacher of Visually Impaired children) and other professionals can achieve an effective working relationship together and ensure the best outcome for children with special requirements.

The fourth leaflet in the series, **Visual impairment and speech and language therapy**, is inside this issue of Insight. The final leaflet in the series, **Visual impairment and specific medical needs and medication** will follow in the next issue of Insight.

Other titles in the series include:

- Visual impairment and physiotherapy
- Visual impairment and occupational therapy
- Visual impairment and orthoptics (clinical and functional vision assessment)
- Visual impairment and specific medical needs and medication

To download this new resource for free, visit rnib.org.uk/bestofboth or email us at cypf@rnib.org.uk



In perspective

Sunglasses – to wear or not to wear



There is currently a lot of interest in, and publicity for, sunglasses for children. In fact, there is a huge marketing drive to persuade parents to provide sunglasses for their children, with headlines suggesting that parents who don't may be putting their children's eyesight at risk in the sun.

Epidemiological studies show an association between an outdoor lifestyle in tropical climates and the development of cataracts and retinal problems in later life. The culprit is probably a lifetime's exposure to UV light. But there doesn't appear to be any evidence that children in the UK's temperate climate are at increased risk if they don't wear sunglasses, so parents should beware of the marketing strategies that play on their guilt.

Our eyes already have a built in safety mechanism that keeps UV exposure at a minimum, as our pupils will constrict at high light levels. Children with abnormally large pupils (associated with conditions such as aniridia, iris coloboma etc) and children who lack pigment in the iris (associated with albinism) will be getting much higher levels of light, including UV, than others. So it makes sense for them to wear UV protecting lenses. Many of these children will be uncomfortable in bright light anyway, so will be asking for dark glasses.

Most other children won't feel any discomfort and a large brimmed hat, such as a baseball cap, will keep direct light out of the children's eyes, and be much easier to wear. I practice

what I preach – all summer you will see me in a baseball cap (unless I want to adopt my fading Hollywood starlet look).

If your children do wear sunglasses, then it is important that you know that the lenses block UV light. A simple dark lens will cut down the light level, which means that your child's pupils will widen behind the lenses, and her eyes will be receiving more UV than without the lenses. So sunglasses without UV protection are more dangerous than not wearing glasses at all! Make sure that the sunglasses are labelled as complying with the British and European standard BS EN 1836:2005. Price is no guide – check the label!

“...sunglasses without UV protection are more dangerous than not wearing glasses at all!”

If your child falls into one of the at-risk groups described above, and wears glasses for long or short sight, you will need to ensure that the glasses she wears outdoors comply with this standard too – check with your optometrist/optician.

Remember that, except for the few children with relevant conditions, sunglasses are a fashion statement rather than a necessity!

- **Maggie Woodhouse is a Senior Lecturer at Cardiff University specialising in Special Needs Optometry**
woodhouse@cf.ac.uk ■

Our series featuring inspiring people living interesting lives

Inspiring lives

Despite being only nineteen Lloyd Coleman is a successful musician and is currently composing a piece of music for the BBC National Orchestra of Wales to be played at the 2012 Olympics. Lloyd was born with Nystagmus and photophobia, and also has a hearing impairment. He speaks to Insight about his inspiration and achievements

Can you tell us how your love of music started?

I have loved music since I can remember. My parents tell me that even when I was a young child, I used to sing nursery rhymes exactly in tune, which was more surprising to them because later during my infancy I was diagnosed with hearing loss. As a child I had a fascination with the piano. I started taking piano lessons and almost instantly knew that I wanted to do music for the rest of my life. I also learnt the clarinet and saxophone. I reached distinction grade eight on all three instruments by the time I was 14, and I was in the National Youth Orchestra.

I began my music career at the Chetham School of Music in Manchester – one of the most prestigious schools in the country with students from all over the world. While there I was able to develop into a more mature musician and composing became my predominant area of study. I was also Head boy at the school and thoroughly enjoyed the whole experience. I was thrilled to start my higher education last year at the Royal Academy of Music and I will be in London for the next four years, studying composition. It's a wonderful opportunity to interact with the other musicians and fantastic teachers there.



Have you found that your visual impairment has affected your musical studies?

Absolutely not at all. Obviously, in terms of practical support, measures were put in place for me, and I asked for help when I needed it – for instance enlarging sheet music and being allowed extra time in exams. Generally in my education I haven't been treated any differently to anyone else, and I'm very grateful for that. I was treated exactly how I wanted to be treated – first as a person and musician before any of my disabilities came into the equation.

Do you make use of any access technology?

For study I have a magnifying device connected to a monitor on my desk. This has made accessing scores a lot easier, as some can be minute. For performing, when conducting music, I don't have it modified in any way and tend to manage with the score on the music stand. I like to think I know the score well enough by that point and use it merely as a reference.

“I find it tremendously inspiring that so many do overcome these barriers in the most positive of ways and I wanted to reflect this ‘can do’ approach through the piece.”

I've read about a band conductor in America who is completely blind. He memorises his scores and is able to detect any wrong notes or mistakes that have been made by the players immediately. That is much more efficient than turning the score pages, locating the music and reading out the bar number. That's an example where you can use a disability to your advantage. In my musical learning I depend on my memory more than others might, but as I have some sight I tend to use a combination of methods.

Tell us about performing at the Royal Albert Hall? It must have been a milestone in your musical career!

Yes absolutely, it was tremendous. I played with the National Youth Orchestra for Great Britain, which I was in for two years before I stopped to concentrate on my A levels. At the end of each year we were invited to perform

for the BBC Proms at the Royal Albert Hall, which was broadcast on Radio 3 and BBC 2, live. It is the best concert that I have done to date, and inspiring both in terms of the musical content and the atmosphere. The Proms really has a unique atmosphere with performers and audience alike having such a passion for classical music. Despite the enormous size of the venue, it still manages to exude a sense of community and warmth. I hope that one day I will be able to return as a composer or conductor!

Tell us about being asked to write a piece of music for the 2012 Olympics.

That was through UCAN productions – an organisation giving children with visual impairments in Wales access to the arts, and supported by RNIB Cymru. I'm chairperson for the young person steering committee. Our development manager managed to secure funding to commission the piece of music. I'm currently in the process of writing and it will hopefully be finished by December this year. Half of the piece will be performed by the BBC National Orchestra of Wales on 4 March 2012 at St Davies Hall in Cardiff, and we hope that the rest of the piece can be performed later on in the year as we approach the Olympics and the Paralympics. This will be my first big gig as a composer and is a massive deal for me. It's a public concert with a huge audience and a professional orchestra, so I'm very excited about it. In composing the piece, I took inspiration from the legend of Pheidippides, the Greek herald who ran across Greece when he was sent to recruit an army. This story helped inspire the modern-day marathon. My piece will be called 'Breaking the wall', a reference to the running term 'hitting a wall' – a state of extreme fatigue, where you achieve the vital break-through.

“I do not want to be seen as Lloyd Coleman the visually impaired and deaf musician, I want to be seen as just a musician.”

This ‘wall’ also represents the many personal obstacles disabled people have to face every day of their lives. I find it tremendously inspiring that so many do overcome these barriers in the most positive of ways and I wanted to reflect this ‘can do’ approach through the piece.

You have been working with a mentor on your Olympic piece, what has that been like?

Yes, I’m working with Larry Ashmore; he’s an orchestrator who has worked with the film composer Patrick Doyle on films such as Harry Potter and the Goblet of Fire, Bridget Jones’s Diary and Gosford Park. He is also a brilliant former double-bass player, working with many of the London Symphony Orchestras and great conductors of the 20th century. I thoroughly enjoyed going over to Larry’s for tea to work on ‘Breaking the wall’. He is full of fantastic anecdotes and advice – we have a really constructive relationship. Being still quite young, it is great to have a mentor (and to have the support of organisations like UCAN) as I start my career.

How important have you found it to be open about your disability in your musical career so far? And what reaction have others had to it?

Personally I feel that it is absolutely irrelevant. I do not want to be seen as Lloyd Coleman the visually impaired and deaf musician, I want to be seen as just a musician. Sometimes the

media will play on disability way too much, so I have to be careful in terms of managing my career to project myself in the way I want to be seen, and not as someone ‘cashing in’ on the disability card. I have had articles written about me that have centred on the disability unnecessarily and my musical achievements are completely overshadowed by them labelling me. That can be annoying, but I’m not going to let it get me down. I’ll just be more media-aware in the future.

What advice would you give to young blind or partially sighted young people wanting to get into music?

Don’t let your disability hold you back at all – there is plenty of support out there. RNIB, I can comfortably say, is a fantastic resource and has a fantastic music department, run by very experienced people with loads of advice and resources. If you want to be a musician, then go for it and focus on being the best you can be, not on the things that you might struggle with at first. The difficulties will sort themselves out as you go along. ■

Additional information

UCAN Productions is a not for profit cooperative which aims to increase opportunities for visually impaired young people to participate in the arts.
ucanproductions.org

RNIB’s Music Advisory Service supports people with sight problems in any aspect of music. It offers information and advice on music education at all levels, from the earliest signs of interest to advanced studies. rnib.org.uk/music

Lloyd’s blog
<http://lloydcoleman.blogspot.com/>

Young Columnist



Technology on the go has come a long way from school days of carting round A3 modified textbooks, a laptop, mini CCTV and assortment of magnifying glasses, as Thom Norton recalls

I've struggled to get to grips with this article. A whole month to write 500 words on mobile technology for the visually impaired and right up to about a week beforehand I had nothing, not one word! Then I realised it's because I was trying to think specific to visual impairment when technology these days often isn't just specific to visual impairment, it's used as a tool across the board. It really got me thinking how much better things have gotten, even in just the past seven to 10 years.

“All this mobile technology I had to use didn't really make me very mobile”

In school the technology I got to use was often outdated, slow, clunky and various other miserable adjectives. More than anything though it weighed an absolute ton! I used to be sent in to school with lunch, exercise books and occasionally PE kit, as you might expect. Added on top of this were four to five A3 modified textbooks, a laptop, a mini CCTV and an assortment of magnifying glasses, half of which I never got round to unpacking because it all took so long. All this mobile technology I had to use didn't really make me very mobile, especially for the mile or so walk between home and school. It definitely didn't make doing things quicker either.

As soon as I left school things started to change. By then everyone's phones had cameras in them, so I could use the zoom as a

magnifying glass. Brilliant! That meant I could offload several hundred pages of A3 and most of my magnifying glasses! My college also decided to buy me a lighter and more up to date laptop with better software, so that swung in my favour too. Now my only nemeses were the read only PDF file and typing the right thing on my phone. By the time I'd started university mobile phones could also readily and fairly cheaply use speech software and I'd forgotten all about my school years of hit and hope on the keypad.

At university things then started to get weird. Friends asked if they could borrow my laptop. Why? The speech software would read research papers to them while they typed. Absolutely essential for that all nighter before the next day's deadline! They borrowed lecture recordings from my dictaphone because it was more detailed than making their own notes. Powerpoint presentations were sent to everyone for ease of access and preparation, not just to me. For the most part I work on the same level as my colleagues and friends now.

So you can see why I struggled to write this article. Everyone uses technology, especially mobile technology in a similar way now. We still have our niches, such as speech software on the phone and magnification software, but things are so integrated now that I don't really have to carry much more than the laptop that everyone else carries too and maybe a pair of glasses. Talk about progress! ■

Dad's view

I do it my way



Susie-Jo's relationship with technology, like her relationship with so many other things in her life, is difficult to define. Maybe because she can't see or maybe because of her learning difficulties, Susie-Jo is far less in the thrall of technology than either of her brothers or, indeed, than the majority of us. Having installed the latest games her brothers have to be dragged away from their virtual worlds to reluctantly participate in the human interaction and inconvenience of a world not controlled by a handset. Susie-Jo, free from such pernicious influences, chooses, sometimes frustratingly for us, to participate in or ignore the technology at her disposal in her own way.

She is delighted for us to put an audio CD story on the Daisy player, not for her, for her bear, Deborah. She then leaves her 'listening' to it in her bedroom and goes to sit and rock on the front room sofa. She won't listen to the TV, the radio or the stereo, she'd rather listen to Dad play the guitar. This might indicate a highly developed understanding of musical talent but does not reveal any willingness to engage conventionally with the technologies that surround her.

She enjoyed typing sentences on a keyboard with bumpers which the computer would read back to her, giggling with delight at the words she'd got wrong. Those with a more utilitarian concept of the use of technology who decided that Susie-Jo was never going to be a brailist

and who no longer encourage her to do this at school, are rather missing the point of the exercise as far as Susie-Jo is concerned. Of course the time is nearly here when she will speak into her computer which will then speak it back to her and then print it out.

She loves her music but, predictably, refuses to wear iPod headphones or even have any music playing in her room. The sofa, discos and cars are the only places you listen to music.

The one piece of technology she does have a meaningful relationship with is the telephone. She always wants to know who's just rung. "Who was that?"

"It was Aunty Christine"

"Yeah...and...?" "What did they say?", "What did they want to know?", "What time did they get up?" (!) She loves to ring her friends at the weekends. Her friend Josh has a list of numbers on speed dial. He just remembers if the name is 1, 2 or 3 and presses the corresponding button. I wonder if Susie-Jo could relate to this. The problem would be convincing her to carry a phone in the first place. Phones do not go in pockets. And Susie-Jo's relationship with the phone is as with other technologies. Yes, she does phone home from school, but only at 7.00pm on a Wednesday night!

● **Mike Walker** ■

Young reading lives

Have you heard about the new resource for parent and professionals developed by RNIB National Library Service? Video and audio clips from young people, parents and teachers are coming your way to help you find books and understand the issues for young readers with sight loss. Hazel Sharrock, RNIB Children's Librarian (childrenslibrarian@rnib.org.uk), explains

The Reading Sight website created in 2009 by RNIB in collaboration with partners is a single and authoritative website providing information about reading for children and adults with sight loss. This free resource provides a wealth of information on:

- organisations that provide resources and services
- accessible formats – what they are and where to find them
- legislation and policy relating to reading with sight loss
- accessible buildings and equipment
- staff training and development.

In September 2010 a new feature called Your Reading Choices was added. This online questionnaire that adult users or their representatives could fill in produced a Personal Reading Plan tailored to meet the individual reading needs, and signposted users to resources and services that were especially relevant.

We initially thought that the children's version of Your Reading Choices would look similar to the adult version. However, when we considered factors such as the constant changes in children's reading ability and interests plus security issues around the questionnaire, we decided to explore other options.

The first hand experience of people who are familiar with services for children with sight loss is a great way to communicate information. Real life stories powerfully demonstrate the range of opportunities for visually impaired children to enjoy reading and

access the range of services to support them. These stories would give library staff, teachers and families the opportunity to listen to others who have knowledge of the resources and services available.

Media professionals have recorded eight thumbnail 'portraits' featuring young people, their parents, teachers, sighted friends, teachers and care workers. Each contains two or three short video clips and a single extended audio file. This not only shows the range of formats available to children but also communicates the emotional side of what it means to be able to read for leisure and learning. These clips convey the impact reading can have in terms of inclusion and socialisation – how books can inspire and shape the lives of young people. Children will also be able to upload their own reading journey onto the website to enrich others.

Young Reading Lives will be launched July 2011 on Reading Sight. You will also be able to connect with it from wider networks such as Vimeo and YouTube as we want to reach as many new readers as possible.

Judging from the pilot interviews already recorded, Young Reading Lives promises to be an invaluable resource for parents and professionals.

Reading Sight is managed by RNIB and supported by Share the Vision and the Society of Chief Librarians. It has also had financial support from the Ulverscroft Foundation www.readingsight.org.uk ■

Toys to encourage early interaction and exploration!

In this series of articles we help you find toys that encourage your child's development. We set our toy reviewers the task of choosing toys that children with sight problems can enjoy. This article introduces some fantastic toys to encourage children to engage in early interaction and exploration

One of the main challenges for a child with a vision impairment is making sense of the world around them. Creating a stimulating environment that offers a range of activities, will encourage children to explore their environment by increasing their interest and curiosity.

Sneezy the Activity Dragon (Tolo Toys)



Stimulate your child to develop their sense of touch and sound. Sneezy features a squeaker nose, crinkle sound ears, wings and back. Shake sneezy's hand and hear it rattle, squeeze the other hand and listen to it squeak! Sneezy has a play butterfly and daisy for peek-a-boo fun in his toes and a bell and magnet in his tail. Great colours, lots of activities, hours of fun!

- **Approximate Price: £29.99**

- **Age Range: From newborn**

Our reviewers said: This toy offers different sound and tactile experiences. Sounds are associated with actions helping to develop a child's sense of cause and effect. Good colour contrast helps visual location of different parts.

Early Years Cage Bell (Halilit)

The Halilit Cage Bell is an extremely safe bell shaker, great for small hands.

The unique design includes special safety features for early years, excellent ringing sound and bright colours. The bells are approximately 12cm high.

- **Approximate Price: £4**

- **Age Range: 6 months plus with supervision**

Our reviewers said: These are light to hold and encourage good hand-eye co-ordination. The bell produces a good sound which can be used to help develop listening and tracking skills by encouraging a child to find the noise (left, right, up, down etc.)

Roller Rattle (Tolo Toys)



A colourful ball with a pleasing rattling sound. Encourages baby's first experience of rolling and cooperative play. Great in the nursery, the garden or the bath.

- **Approximate Price: £6.50**

- **Age Range: 3 months plus**

Our reviewers said: This toy has good colour contrast and is great for encouraging spatial awareness, movement and visual tracking. The rattle sound helps encourage listening skills and interaction as a child can follow the sound of the rattle as it rolls.

Clip On Pram Book (Taf Toys)

A soft and attractive double-sided fabric Baby Book that easily attaches to most prams and cots.



Two sides will appeal to different developmental stages: One is aimed at birth to three months and the six panels have high contrast colours and patterns, smiley face drawings and a Baby-Safe Mirror.

Side Two is richly coloured and illustrated with different textures including a friendly flower with a crinkly leaf, a ladybird with soft ball, an elephant with furry ears and much more!

- **Approximate Price: £13**

- **Age Range: From birth**

Our reviewers said: Two sides for developing stages of visual awareness. One side uses black and white (high contrast colours) and patterns which stimulate early visual development.

Interesting texture differences on side two provide interesting tactile variety and experiences for young babies and help develop baby's tactile sense and fine motor control.

Bop The Boat (Alex Jr)

Bop the Boat is a toy to encourage learning, growing and play! Bop the balls and watch them roll. Includes boat, life boat, big bopper and three balls which store easily inside the boat.



- **Approximate Price: £30**

- **Age Range: From 12 months +**

Our reviewers said: Brightly coloured.

Encourages good hand-eye co-ordination.

Good for tracking. Robust toy. Washable.

Encourages crawling and cause and effect play.

Clutch and Go Pyramid (Lamaze)

The Clutch and Ratchet Pyramid has lots to explore. The peek-a-boo plastic panels contain over moulding for teething, Mylar mirror and ratcheting sounds. Open the plastic panels to reveal a discovery soft pyramid with a fun character face on each side. Babies will enjoy the multiple patterns, different textures, chime, sounds, ribbon and crinkle. Use the quick clip for on the go play.



- **Approximate Price: £12**

- **Age Range: 6 Months +**

Our reviewers said: Good colour contrast make sections easy to locate. Helps babies to develop grip and encourages cause and effect

with sounds being associated with actions.

This toy can be hung to encourage reaching and exploration.

Playskool Gloworld music & lights play mat (Hasbro)

Bright colors, contrasting patterns, and stimulating textures offer lots to



explore. Engaging toys, including a rattle, teether and mirror, can be repositioned for over head discoveries, tummy time, or sit-up play. The play mat also includes a glowing sun that provides up to twenty minutes of cheerful songs or comforting nature sounds with adjustable volume. Easily foldable.

- **Approximate Price: £44**

- **Age Range: From birth**

Our reviewers said: A first den or 'little room' for a baby. It stimulates interest in different things to see, touch and listen to in a secure environment where a baby can develop a sense of control through repeated actions. You can also introduce favourite objects to encourage curiosity and exploration.

Toys are available from amazon.co.uk, argos.co.uk and all good high street toy retailers unless otherwise stated. These toys are not available to buy from the RNIB shop. Please refer to manufacturer's websites to find a stockist near you.

Help when choosing toys

RNIB and The British Toy & Hobby Association have produced an information leaflet about toys and play for children who are blind and partially sighted. The 'Toys and Play' leaflet provides information on choosing the right toys, creating a play environment, growing through different types of play and tips for extending your child's play environment. For further information visit: rnib.org.uk/earlyyearslearning ■



Looking for specialist education and care?

RNIB Pears Centre for Specialist Learning in Coventry offers a place for young people with complex needs who are blind and partially sighted to live, learn and grow.

- Specialist education
- Up to 52-week residential care
- Therapies and healthcare

RNIB Pears Centre (formerly known as Rushton School and Children's Home) builds on fifty years of specialist expertise, enhanced by new modern facilities.

"A safe, happy and joyous place." Ofsted, 2009

Visit us! Call 024 7636 9500 ● Email pearscentre@rnib.org.uk

Go to rnib.org.uk/pearscentre



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