

ICT – making greater independence a reality

Henshaws College provides specialist further education to 16-24 year olds who have sight problems and a range of other disabilities. John Mitchell, ICT course team leader, celebrates the benefits that information and communication technology provides in helping students become more independent

At Henshaws College we witness daily the transformational and empowering effect that ICT can have for young people with disabilities. Here are just a few simple ideas that are currently going down a storm with students at Henshaws.

“Pen Friend” audio-labelling

Recent trials of the RNIB “Pen Friend” – a battery-operated voice labelling system consisting of a pen device and pre-recordable stickers, have proved really popular. The innovative device has a huge variety of applications, from speaking timetables, to audio maps designed to help students navigate their way around the campus. Future aims for using this device include helping students to create individual shopping lists so that they can do their own planning, shopping and then cooking.

Jamie makes use of his Pen Friend during his work placement at a shop. Each week Jamie has specific tasks to do and he has a set of task cards telling him what equipment to use, the steps he needs to follow to complete the task, and health and safety points to consider at each stage. Jamie, who has no functional sight, accesses these by placing the Pen Friend onto stickers on a tactile grid on his task card. When each sticker is activated the device speaks out instructions pre recorded by his instructor. Jamie has learnt the order in which to track along and is able to carry out his work with increased independence.



Nintendo Wii

The Nintendo Wii uses a hand-held controller which the user can move around in space to make selections on a computer. We've been using it to great effect in the classroom where Wii games in group settings have really improved teamwork, turn-taking, communication skills and rapport development among students.

When Daniel joined us as a first year student this year he was reluctant to try new activities particularly with unfamiliar people. Within an IT enrichment session he chose to play the Wii as he enjoyed this at home. Initially Daniel played individually on Wii Sports Resort but as the term progressed he began to play interactively with another student, even showing him what to do to play the game. Now Daniel plays in a group of four and encourages and supports other students when they play. Although games on the Wii are very visual we do have students who enjoy playing thanks to the auditory and haptic feedback

Sophie's story

Since her arrival at Henshaws College we've supported Sophie's keen interest in IT. Sophie has mitochondrial disorder and mild learning difficulties. She has limited arm movement and mobility, and some speech difficulties. Innovations in IT have really helped Sophie to increase her independence and improve her quality of life. Sophie has used a Lightwriter – a portable text to speech communication aid as her primary means of communication for most of her school life. Upon our initial assessment it was clear that Sophie was adept at using the computer, but due to physical difficulties she needed a high table to position both a keyboard and a rollerball mouse on. Sophie found this quite tiring and no matter how ICT literate she was she could only maintain use for a limited time.

We sought to find a way that was both practical and comfortable for Sophie to develop her skills. Firstly we configured her Bluetooth-enabled wheelchair control stick to Windows so that it could act as a computer mouse. This was then coupled with the onscreen keyboard – a standard feature of later versions of Windows – instantly increasing her independence in using ICT and the length of time she can comfortably use it. Now she no longer has to rely on someone else to set her up with equipment as her wheelchair connects to the computer once she has logged on.

Recently we have had some of our PCs upgraded to Windows 7 and begun to explore using the speech recognition software as a way of controlling the computer without the need for a mouse. Knowing that Sophie is very quick at using the Lightwriter to communicate due to its predictive text feature, we decided to extrapolate our use of speech recognition and use the audio output from her Lightwriter plugged into the microphone socket on a computer. This has enabled Sophie to use the speech recognition software in Windows to open and close programmes, navigate the internet and use Word – a much speedier process than using her wheelchair mouse to type on the onscreen keyboard.

they offer. Tom, who has no sight, has learnt how to navigate Wii Sports Resort from the title screen to playing basketball using only the buttons and no motion control. He only needs assistance when he has finished a match and wants to know his score.

In addition using the Wii can improve co-ordination and gross and fine motor skills, while the console enables students to gain general computer skills, such as navigating option pages or selecting criteria using the buttons on the controller, which can then be transferred to use on a PC. We've been able to adapt a Wii remote to connect to a computer and act as a mouse for one student with limited mobility who struggled with a regular mouse.

SMART Boards and Touchscreens

We have a number of SMART Boards (interactive whiteboards) in college and nearly all of our computers have touchscreen monitors. Touchscreens are a great way of accessing computers as they offer a more contextual touch and response mechanism than a mouse. Students find it far easier to understand the principle of touching the screen than moving a cursor to a specific point and then clicking. SMART Boards are essentially large touchscreens, with the image being projected onto a screen approximately 1.6m x 1.25m in size. These are great for viewing images and video, and their interactivity offers great teaching and learning opportunities.

Within our Newspaper Delivery enterprise students have a personal delivery list on the board showing each recipient's face, location, choice of newspaper and cost. Once each paper has been delivered, students return to class and tick a box on the board to say it's complete. In another enterprise we present a range of daily jobs on the left of the board alongside pictures of the students' faces on the right. Each picture has an auditory cue when you tap it. The students select which job they'd like to do by moving their face onto the job.

iPod touch and iPhone

Young people love getting their hands on the latest must-have technology, but even more so when that technology is not only cool but also really useful. We've found Apple's mega-selling handheld media players with internet access and smartphones extremely useful in a range of settings. In addition to their portability, which allows them to be held close to the face, and the useful built-in accessibility features, including voice-over which speaks any text shown on screen, they also support a number of great applications.

The iPrompts application, for example, allows our students to create a slideshow of pictures, such as landmarks on a route or a morning routine. This acts as a memory aid, and encourages greater independence when used in complex tasks. Helen took personalised prompts with her on her work placement in a charity shop where she followed step by step picture instructions of what she needed to do to get to work, complete her tasks and return home. (Watch Helen's experiences online at www.moletv.org.uk)

Another application we're using is the Augmentative and Alternative Communication application Proloquo2go. Becky regularly makes use of this app on her iPod as an alternative to speech when she feels she is being misunderstood.

Digital cameras, video recorders and dictaphones

We regularly use these types of technology as memory aids allowing students to easily record the information they need in order to help them complete a complete task. Michael uses his Dictaphone to store his spoken shopping list to help him in the supermarket, and later he uses pre-recorded step by step recipe instructions to cook his own meal.

Cameras and video recorders are great for taking pictures or videos of landmarks on a regular journey to help you record useful navigation points. Clare has a regular mainstream camera which, like so many on the market, is really durable and has a simple interface which we've easily adapted to have large, tactile buttons by using tacti-mark over the existing buttons. This could also be done using bumpons (available from RNIB). It's great to adapt an existing piece of technology so that students can confidently use it in public without feeling self-conscious or different from other young people.

These are just some of the simple ways in which technology can empower our students, increasing their confidence and self-esteem and enabling them to achieve much greater levels of independence in everyday life.

- **John Mitchell**
www.henshaws.org.uk

Resources

Information about apple accessibility
www.apple.com/accessibility

Proloqui2go application for the iPod
www.proloquo2.com

iPrompts application
www.handholdadaptive.com

For RNIB products
www.rnib.org.uk/shop ■