Using the computer with Megan

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The reason behind this article is that as a specialist teacher and as a grandmother of Megan, who is seven and a half and has Down syndrome, I have known for a long time that most children with Down syndrome are visual learners. They are very good at observing and copying, their visual learning channel is the stronger one and like children with dyslexia, they will benefit from multi-sensory teaching.

Recently, Meg has had difficulty ordering numbers, 1 to 6 was fine but the order of 7, 8 and 9 were often confused. After a lot of effort on everyone's behalf, it became obvious that something different had to be tried. I had come across *Numbershark* and *Wordshark* several years ago and wondered if these may be of use.

Carolyn, my daughter, had been into school and was impressed when she saw *Wordshark* working. I bought both of the programs and we loaded them onto the home computer. They were an instant success but there were one or two problems when Meg used them. Her sister, aged 11, had no difficulty and soon managed to find her way into the games, at the level that she needed. Both *Wordshark* and *Numbershark* have many games that are used to teach number and spelling from the basics upwards. They are great fun, interactive and have a variety of settings and controls that an adult can operate. The speed at which the games run is variable and the word lists, which are National Curriculum linked, can be tailored to suit the child. All the levels of spelling and number activities work on most of the games.

Numbershark has 40 games and covers addition, subtraction, multiplication and division. The topics are finely graded and the structure gives meaning and understanding to the number operations. *Wordshark* has 36 games has a selection of pre-recorded words aimed to promote high motivation and suitable for use in primary or secondary. The format of the programs is designed to provide high levels of motivation. They are produced by *White Space Ltd.* from whom demonstration discs are available (see Resources list).

When Megan first started using *Numbershark*, she quickly discovered that by randomly pressing each number she could very quickly find the correct answer. Since this is not the object of the game, it was decided that Carolyn would need to supervise her. When using the computer at school her teaching assistant sits beside her because if she loses interest in what she is doing she will turn the computer off. Carolyn also discovered that when Meg claimed that she could not do a particular game, once she had been left alone for a few minutes, while her mother answered the phone, the game was completed quickly and correctly with no problem! The moral being that 'all children need some supervision to get the best out of the package they are using'.

Another issue, which has been brought to my attention, is that if the child can have his or her own computer in the classroom, it is of great benefit to everyone. The computer can be used when it is needed and the specific programs, which the child uses, can be put on it. Whenever this has been the case, it has been remarked upon by the adults in the classroom, who appreciate the flexibility and support for learning that it offers.

Meg has been using *Widgit* since Year 1. This program is of great use with language activities as it provides a simple symbol together with the words, which are spoken by the computer at word or sentence level. It can be used for the child to produce written work, or to produce reading material for the child. If it is going to be used to introduce new words for reading, the symbols, which are above the words, should eventually

photo: Stephen Wyatt

be removed to ensure that the child is reading the words and not the symbols.

Widget has been a useful program for Meg since she has oral dyspraxia and hence difficulty speaking. She communicates effectively by using Makaton and understands what is said to her, but teaching her to read is difficult as many schemes introduce new words too quickly, and she needs to sign as she reads, as her speech is not always clear. Her reading vocabulary can be gradually increased by using *Widget*, between the stages of the reading scheme, to personalise reading material for her. *Widget* can be used as an extra means of communication for Meg.

Although she has been signing since she was a baby, she still needs to learn new signs in order to communicate. A teaching assistant who uses Makaton has been essential to her integration into mainstream primary. Once she can say a word clearly, she no longer uses the sign. Many of her peer group were in nursery with her and can also sign, so she has always been a well-integrated member of the class with supportive friends.

Through visits to Meg's school and the school where I used to teach, which has had five children with Down syndrome, I have had the opportunity to talk to the class teachers, the ICT co-ordinators and the teaching assistants as well as the Special Needs Co-ordinators

[SENCo]. As a former class teacher and a SENCo, I am aware how much teamwork goes into ensuring that our children have access to quality education, which is appropriate to their needs.

One message has been very clear; that all the children are different. Some thoroughly enjoy using computers whilst others simply tolerate them, but it is worth the effort trying new programs with all children since the variety and quality of programs that are available is vast. What may engage one child may have no impact on another. Unfortunately, customising the program to best match the child's needs is a time consuming process, but it can be time well spent, and it becomes addictive as well as being valuable learning experience for the adult.

One program that has consistently been praised is *Clicker 4* produced by *Crick Software*. The SENCo at Meg's school believes that it is the most useful program she has invested in. It is a literacy package, which is used throughout the school. Once the standard package is bought, there are many additional features which can be added as needed. *Clicker 4* has pictures to illustrate the words and the computer reads what is written either letter by letter, word by word or in whole sentences. The standard package has vocabulary grids that can be personalised to use with any topic. This has proved to be very useful, as Meg, without the aid of vocabulary grids, will constantly write about her cat. There are six volumes of words at an additional cost of £25 each; symbols/pictures and quick fire are additional packages. All the children I met used *Clicker* in one form or other, to produce work for a variety of subjects, by using personalised word grids

photo: Stephen Wyatt

to enable them to build sentences. The satisfaction which a child with poor fine motor skills can experience, when producing work in this way, is a great boost to self-esteem. Meg's efforts are shown to the class though the interactive Smart board. Differentiation of the curriculum for our children can be made meaningful and interesting through the use of such packages.

The ability to access a computer depends upon co-ordination and fine motor skills. One problem that was mentioned, was the difficulty experienced by the child when trying to use a conventional mouse. A 'kidtrac or trackball', which is a large roller-ball mouse that is operated using the palm of the hand and has large colourful pads to click, is a valuable tool. Coloured keyboards, keyboards with lower case letters, rather than the standard keyboard, which has upper case (capital) letters, and larger format keyboards can also be of benefit. Contact info@ keytools. com or Tel. 023 8058 3414

Another useful program is *Rigby Star*, which supports the reading scheme. There are seven levels and each level is sub-divided even further, which should ensure an appropriate level of work for the child. It includes games using phonics. Although the reading scheme was not being used by the child, as it progressed too quickly, the CD ROM was of value. *Planet Wobble*, an interactive program for reading, *Elf Tales* (from *Sherston*) and *Story Player* are all programs, which are being used with great enthusiasm from both children and teaching assistants. *Painter* and similar art programs are also popular; they are good for fine motor skills and co-ordination as well being fun.

Programs which may be of use are *The Handwriting File* (from *KBER* and *Type to Learn*. *The Handwriting File* has script, with or without lead, in strokes, in two sizes and direction arrows to show letter formation and a shaded grey area to guide the height of the child's writing. You can print the pages for practice as they are needed. Included on the same CDROM is *The Handwriting Alphabet*. I have used these materials with students of all ages from 6 to 50 with great success. I have been looking for a child- friendly typing program and have found *Type to Learn* which has

10 minute lessons, is colour coded to encourage the use of the correct fingering and has rewards, in the form of games, built in. The recommended age is 7 and above. Although I have not yet used this program, it has been recommended to me after looking at what is currently available for teaching typing to primary aged children.

When I accepted the challenge of writing this article, I was not aware of the scope that there is to use ICT to assist learning with children who have Down syndrome. It has been a valuable learning experience for me and has encouraged me to further explore the possibilities of using ICT with my own students and their families. I have enjoyed being able to meet the children and the staff and hope that by being able to pass on what I have discovered to others in a similar situation, it may have helped everyone to continue to learn together to ensure the success of our children. Thank you to everyone who has taken the time to talk to me and make me so welcome in their schools.

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ICT resources

Wordshark and *Numbershark* available from White Space Ltd www.wordshark.co.uk/

Utilising information communication technology to assist the education of individuals with Down syndrome. By Bob Black and Amanda Wood (2003). Portsmouth, UK: The Down Syndrome Educational Trust. ISBN: 1-903806-29-1. This publication includes a comprehensive and up-to-date index of software suppliers.

Assisting individuals with Down syndrome to access information technology – An overview. By Frank Buckley (2000). Portsmouth, UK: The Down Syndrome Educational Trust. ISBN: 1-903806-30-5.

A wide range of software, including many of the examples mentioned in this article, is available from The Down Syndrome Educational Trust's Resources brochure.