

Special Needs and ICT



**British Educational
Communications
and Technology agency**

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About this information sheet

This sheet aims to provide:

- an overview of the role of information communication technology (ICT) for pupils with special educational needs (SEN)
- details of some of the published sources of information and advice on ICT and SEN
- lists of organisations, both voluntary and commercial, which provide information, advice, training, hardware or software relevant to students who have disabilities or learning difficulties.

This sheet can be accessed on the Internet:

- in summary at: <http://www.becta.org.uk/technology/infosheets/html/senict.html>
- in full as a pdf file at: <http://www.becta.org.uk/technology/infosheets/pdf/senict.pdf>

Specific sheets have been written on particular aspects of SEN, and these are also available on the Web at: <http://www.becta.org.uk/technology/infosheets/sen.html>

Introduction

It has been long recognised that information and communication technology (ICT) provides valuable tools in the area of SEN, facilitating access to learning for many students. Examples include the variety of input devices for different physical disabilities, speech recognition systems and the ability to set individual font sizes and text/background colours, all of which help to remove barriers to learning which students may encounter by virtue of their specific circumstances. In addition, the support which ICT offers can minimise many of the differences between students with SEN and those without, thus aiding the pursuit of social inclusion currently very high on the Government's agenda.

For learners with SEN it is important to identify not only the most appropriate technologies and strategies to address individual need but also how to manage the resources. It must also be stressed that, whilst ICT may help to overcome the problems faced by disabled students, the approaches and ways in which the ICT is used will always need to be individually tailored and regularly reviewed.

Access technology

The power of ICT lies in its ability to provide access to learning for children with SEN. In its broadest sense, this means that ICT can enable students to overcome many of the barriers to learning by providing alternative or additional methods of communicating within the learning process. It also means that ICT can enable students to take advantage of their entitlement to a broad and balanced curriculum, which includes the National Curriculum.

For students with significant physical and sensory impairments, ICT can provide physical access to the curriculum. This is technology at its most dramatic, liberating the student from the physical barriers to learning. A student who cannot use his hands can control the computer by pressing a switch with his head. Through the computer, he can learn to make choices and to select words and images for his own purposes. A student who has problems with fine motor control can use a trackerball to move a pointer across the screen. He can select the options in a drawing package to draw a series of geometric shapes, with a confidence that the quality of the results will do justice to his intentions.

For these students, the technology provides independent access to a world of communication and learning that may have been closed until this time. It is no wonder then that we consider ICT in the context of physical access as a lifeline.

For students with learning difficulties, ICT can provide cognitive access. ICT enables us to present the curriculum in a variety of ways, thereby encouraging the student who has difficulty grasping the concepts, skills and knowledge required of him. For instance, a group of students use a computer to drive a robot around an obstacle course on the floor, directing its movements from the keyboard by telling the robot how far and in which direction to travel. In this way, they are encouraged to develop an understanding of estimation and direction in a practical setting. On another occasion, exploring a picture of dangers in the home on the overlay keyboard can reinforce messages of health and safety. The students can review their ideas and discuss differing viewpoints by collaborating on the task. By experiencing learning in an active way, they are helped to identify similar situations in the world around them. The common factor in these experiences is that ICT is providing an additional resource to facilitate the learning process for these students.

For many students, ICT has a special role in providing supportive access. The student with poor handwriting can enhance the presentation of his work by printing it out instead of writing it by hand. The student with specific learning difficulties who finds access to print difficult can use a word processor that will 'read back' his text to him. The student who is wary of failure in the learning process can explore ideas on the computer in a supportive environment. For these students, who are often not able to express their true abilities through traditional methods, ICT has the power to offer alternative means of approaching the learning process.

What are the different types of technology which can help and how?

There are a number of software and hardware technologies that are of particular use when working with students with SEN.

Software

'Office' type software currently in use in most schools often has built-in tools and utilities which can help users in many ways.

Spell-checkers, Glossaries and Thesauri

Poor spelling is a source of immense frustration for some pupils. They try really hard to produce a good piece of writing, only to have it returned covered with red pen. It is little wonder that they give up and decide they are 'no good at writing'. Spell-checkers can alleviate the spelling problem, leaving pupils free to concentrate on content and phrasing.

A spell-checker works by comparing each word on the screen with the words contained in its own dictionary. Any unknown words are highlighted. By clicking onto a box, the student can call up a list of suggestions. Most spell-checkers base their suggestions on a phonic approach and put up words that sound similar. Some spell-checkers also suggest words that look similar. For example, the misspelling *open* produced among others, the following suggestions: *spend*, *upend* and *append*. With many spell-checkers the learner does not even have to get the first letter right.

Hand-held spell-checkers enable the learner to have easy access to an electronic dictionary, without the need to search for words in alphabetical order. A spell-checker works by comparing individual words in the document with words in its dictionary. It will highlight words which it does not recognise and offer suggestions. However, it will not highlight a word which is spelt correctly and which appears in its lexicon. Any decent spell-checker allows you to add your own words to the dictionary so it can be customised to include words from specialist vocational areas or personal vocabulary such as family names.

Some spell-checkers offer extra facilities such as a thesaurus, where the user can check the meaning of words. Thesauri help students to extend their vocabulary and become more articulate, but they can also provide a good spelling strategy for hard words. The user chooses an easy synonym that he/she can spell, then looks it up, finds the word he/she wants and then inserts it into the document. One of the greatest advantages of spell-checkers is that they stop students wasting time agonising over words that are correctly spelt.

Speech input/output

Speech feedback within any software can provide extra support for all learners. Speech feedback within a word processor enables the user to hear what they think they have written. This helps to highlight spelling errors and grammatical mistakes.

With spell-checking and speech together, in a package like *Write OutLoud* or *Read & Write*, students can make quite rapid progress. They see the text appear on the screen and can hear it read back to them. As a result, they move to thinking in sentences and planning ahead. The work becomes longer, more coherent and more ambitious.

Even more sophisticated is a predictive word processor such as *Co:Writer* or *PredictIT* or *Prophet*. Originally devised for physically disabled students, who might only be typing ten letters a minute, these have now become very popular with many dyslexic writers.

Speech input systems allow the user to input text into a word processor or to control the computer by voice. Speech recognition can be very accurate, and improves as the software becomes familiar with the voice of the operator. The procedure, known as the enrolment period, when the user dictates sentences to the machine so that it becomes accustomed to their voice, is an ongoing one. Today's systems allow the user to speak at a more-or-less conversational pace, and the enrolment routine has been shortened to around five minutes.

Becta has been investigating the use of speech recognition systems with SEN users, and more information is available on this Web site at: <http://www.becta.org.uk/inclusion/speechrecog/index.cfm>.

Word processors

A word processor can be of considerable help to students with dyslexic-type difficulties. It allows users to produce, review and revise documents, as well as print them out. There is a great deal of evidence to suggest that this increases their motivation to write, since the final copy is both correct and well presented; the evidence of the 'red pen' has gone. Because the word processor minimises spelling and handwriting problems, students are free to concentrate on the ideas and the way they want to express them. This encourages them to be more adventurous in their use of language and syntax.

The use of a word processor can compensate for handwriting problems and help beginners who are struggling to make progress. The teacher can create a concept keyboard overlay with content and vocabulary to suit the learner's ability and interests. This enables words or phrases to be added to the writing very simply through pressing the board. Pictures as well as text can illustrate the cues and context.

Collaborative writing, a potentially powerful creative activity in itself, can ameliorate some of the difficulties experienced by learners with dyslexia. Computers can make collaborative writing practicable because it is easy for several people to look at the screen at the same time. Writing stories and scripts for plays lend themselves to this approach. Groups of learners can benefit from brainstorming ideas, discussing the plot and the particular words to be used and from working together on the editing. One advantage of this method of working is that learners 'own' the material they produce but never feel that they have sole responsibility for it.

Predictive word processors

Originally designed for physically disabled users, predictive word processors can be of value to learners with dyslexia. They all operate in more or less the same way: when you type a letter, a pop-up window displays the five words or phrases that the software thinks you may want to write, based on the letter you have just typed and an analysis of what you have written already. If the word you require is not listed, continue to type. The pop-up window will display new words, based on the letters you have provided. Items that you use frequently move to the top of the list.

When used by a single user, predictive word processors 'learn' common vocabulary predicting frequently used words. Not only is the use of predictive typing an asset for those with physical difficulties (effective use can reduce the number of key presses to about one third), but it can also encourage more adventurous writing by enabling quicker and more efficient typing.

Hardware

In terms of hardware there are a variety of peripherals which can be very helpful in the field of SEN:

Head pointer or mouse stick

The student may wear a headset or a reflective dot on their forehead or other part of the body, which is then tracked by a sensor box. He/she then moves the pointer or stick across the screen simply by moving his/her head slightly. Normally a switch is used to do the equivalent of a mouse click. These systems work well with on-screen keyboards but they are still quite costly, at £1,000+.

Joystick and Trackerball

Joysticks and trackerballs are alternative methods of access to the keyboard or mouse and can be used by those who can maintain consistent pressure or who have an accurate grip. They have been developed for those who do not have the dexterity to operate a conventional mouse.

For many people with disabilities, the joystick is a familiar device, found on most electric wheelchairs and a familiar feature of many computer games over the last decade. This gives it a head start over other devices for some users as they have already had considerable experience of using it in other contexts.

Fundamentally, a trackerball is a mouse that has been turned upside down. Instead of the ball being rolled by dragging the mouse around, the user moves the ball with their finger tips. In other words, the device is stationary, and does not require much dexterity. *Kids Ball* is a large trackerball which can be used alongside any other mouse device. It's big and brash and ideal for young children or users who have difficulty using the standard mouse.

Keyboard

The traditional keyboard, in combination with a mouse, is the most common input device used for computer input. Keyboard shortcuts make it easy to carry out many of the functions you need to use. For example, in Windows, 'Ctrl S' saves files while 'Ctrl C' copies a highlighted passage. Apart from the hundreds of standard shortcuts, users can create their own for actions or sequences they find hard to do. Thus it is possible to get around a PC without a mouse or similar device.

Keyguard

A keyguard sits over the keyboard with 'holes' through which the student applies pressure with each key isolated beneath its own 'hole' to avoid the risk of being accidentally pressed when the student is attempting to reach an adjacent key. It may be very helpful for students with a tremor.

Mouse

A well established input device for computers, the mouse has a ball underneath which moves against sensors as the mouse is moved across an area of desk emulating the surface area of the computer screen. Buttons on top of the mouse enable the user to make selections when the mouse has been used to place the pointer over the desired on-screen position. Some users find that they are able to move the mouse, but cannot manage to control the buttons. A mouse interface such as the *Mouser* available from SEMERC will allow the mouse buttons to be switched off and replaced by external switches if required.

Overlay keyboard

For learners who find that the effort of pressing a key limits the amount that they can write, an overlay keyboard can supply words and phrases for easy selection. Keyboards such as *IntelliKeys*, with suitable overlays, can also be used to control the screen pointer.

Recent software developments such as *Clicker* from Crick software now allow grids to be displayed on-screen and are potentially more versatile than the hardware alternatives.

Scanning system

At its simplest, this may entail a light scanning across a series of pictures from which the student makes his selection by pressing a switch as the light rests on his choice. More complex scanning systems use two user-controlled switches to select letters, words or symbols. The most sophisticated selection mode uses encoding. Using codes to classify a word or symbol within a group gives the user access to a wider range of vocabulary at one time.

Switch technology

For those who have poor fine motor control, the solution may lie in using switches. A wide variety of switch designs is available; success depends on finding one which the student can activate with the part of the body he can control best. By pressing a switch attached to the computer, learners can control what is shown on the screen. For example, using switch-operated software, they can turn a sound on and off, match pictures, or choose and print out words and symbols.

Single or double switches can, via special software utilities, access standard software. New utilities are being developed which will provide switch access to a wide range of modern programs, so that the switch user is not limited to the more traditional activity of word processing. For example, by scanning across a grid, letters and words can be inserted into a word processor. Software such as *Clickit* and *Hotspot* can give switch users quick easy access to 'point and click' software by defining hotspots on the screen which can be reached with switch presses. This is especially useful for switch users who want to use CD-ROMs. Switches can be used to give direction control over the mouse pointer by using a *MouseMover* or by running special access software such as *SAW* (Switch Access to Windows) and *Clicker*.

Learners can be encouraged to vocalise, sending messages to the computer by a sound-activated switch. Using suitable software and blowing or speaking into the microphone, they can change the picture on the screen or create patterns in response to their voices.

Touchpad

Portable computers often have these incorporated into their design, although they can be obtained as a peripheral to attach to an existing computer. Usually a small pad, they are operated via the lightest of touches with a finger, which means that they can be good for people with restricted movement and stamina. Some larger touchpads come with an elevated stand for use on a desk, tray or tabletop. The smaller touchpads can be used in the palm of the hand and can provide an excellent alternative for a mouse. On the other hand, some children do not cope well with this device. One teacher reported, 'A child with cerebral palsy in my class has to use a separate mouse but he selects with the buttons under the glide pad.'

Touch screen

Touch screens allow students to make a direct link between a hand or pointer and what is happening on the screen.

Specific tips when using ICT with SEN students

When providing (both teaching and ICT) resources for students with SEN it may be useful to consider the following:

- Try to restrict the size of the main page to one screen
Scrolling up and down creates an extra problem of navigation and cognition.
- On main pages it helps to have plenty of 'white space'
- Include a summary and the option to either download or read the whole page if you want to give your readers access to long pieces of text
The less text that people have to read in order to find the information they actually want, the better.
- Ensure that users can select their preferred font for displaying material on screen
Many people like to be able to set their computer to display larger or simpler fonts to enable them to read more easily. When dealing with the Internet, access.adobe.com provides a set of free tools that allow visually disabled users to read documents in Adobe PDF format. These tools convert PDF documents into either HTML or ASCII text, which can then be read by many screen reading programs. Details available at: <http://access.adobe.com/tools.html>
- Minimise the use of graphics
These can be difficult for people with visual difficulties. On the Internet, graphics can frustrate people with slow Internet connections who have to wait a long time for pages to download.
- Always provide a text alternative to pictures
People with visual difficulties and those wanting to know whether it is worth waiting for your 100K picture to appear will value this.

- Images can be useful especially for people with cognitive difficulties, but always include a text equivalent for people who have visual difficulties

On the Web, image maps present problems for people who find moving the mouse pointer difficult.

- Consider the position of equipment

Variable height trolleys may be necessary to enable a computer to be positioned at the optimum height and distance from the student. It is particularly important for the computer monitor to be within comfortable view. Alternatively, the computer can be placed out of reach and the monitor positioned separately on an appropriate surface by using a long monitor lead. It may be useful to provide a copyholder.

- Consider lighting from the student's perspective

Light from windows or overhead lights can make working on a computer very difficult.

Specifically on the Web:

- Consider putting a thumbnail picture (with text description) on the main page and include the facility for browsers to download the full file if required
- If using pictures as html links, always give a text equivalent alongside
- Place the text in a predictable place on each screen

The top is preferable, as that is where the screen reader will begin reading.

Maintaining an overview of developments in access technology for all areas of SEN is a time-consuming and continuous process. It requires not only an understanding of the technology but also an awareness of the needs of the different disability groups. Evidence from the classroom of what works and under what conditions is important. Many requests for equipment are made in the knowledge that an ICT solution has worked for similar children with SEN. However, the ICT industry is fast moving, with familiar equipment constantly being replaced by new developments promising ever more powerful solutions. The result is that recommendations are continually shifting as new products come onto the market. Evaluating these requests is not easy, especially when guidance is couched in the specialist language of the computer world.

Becta works in partnership with a number of the organisations named. If you require further information, or if you know of organisations not included which are developing ICT and other learning resources for learners with SEN, please let us know.

Computer-based recording and reporting systems and software

There are a growing number of commercially available programs specifically designed to support the recording and reporting of information on pupils with special needs linked to the staged approach of the Code of Practice. Below are listed contact details for those software programs of which we are aware:

Co-ordinator - Code of Practice Management

Kirklees School Effective Service, The Deighton Centre, HUDDERSFIELD HD2 1JP

Tel: 01484 225793 E-mail: marketing@geo2.poptel.org.uk

IEP Developer

Special IT Solutions Ltd, 125 Naunton Crescent, CHELTENHAM, Gloucestershire GL53 7BE

Tel/Fax: 01242 254249 E-mail: PeterTennant@Special-IT-Solutions.co.uk

<http://www.special-it-solutions.co.uk/>

IEPs software

SEN Store, H.S. Software, FREEPOST, SWANSEA SA2 9ZZ

Tel: 01792 204519 (24-hour answering service) E-mail: h.s.soft@argonet.co.uk

IEP Writer

Learn How Publications, 10 Townsend Avenue, LONDON N14 7HJ

Tel: 020 8886 2262 Fax: 020 8441 1459 E-mail: LearnHowPublications@btinternet.com

<http://www.learnhowpublications.co.uk/>

SENCO

Capita Education Services Ltd, Stannard Way, Priory Business Park, Cardington, BEDFORD MK44 3SG
 Tel: 01234 838080 Fax: 01234 838091
<http://www.capitaes.co.uk/>

SENCO Aid

Granada Learning / SEMERC, Granada Television, Quay Street, MANCHESTER M60 9EA
 Tel: 0161 827 2927 Fax: 0161 827 2966
<http://www.semmerc.co.uk/>

Publications

You should check the Bookshops link under 'Internet sources' (below) for a wider range of publications.

Becta publications

Specific SEN titles (information sheets only):

Dyslexia & ICT information sheet
Emotional & Behavioural Difficulties and ICT
Gifted and Talented Children and ICT
Hearing impairment & ICT
Learning difficulties and ICT
Physical disabilities and ICT
Speech and language difficulties and ICT
Visual impairment and ICT

All available on the Web at: <http://www.becta.org.uk/technology/infosheets/sen.html>

General SEN titles:

Computers and Inclusion Factors for Success by Mick Donegan

ACE Centre /Becta publication, 2000

Shows how technology can support children with complex physical and communication difficulties and is illustrated with case studies.

ILS: A guide to good practice

Becta, 1999 ISBN 1853794309

Answers many of the questions schools and colleges have about effective implementation of an ILS.

Voice Recognition Technology in Education: factors for success

Becta, 2000 ISBN 1 90330 300 1

Provides the reader with a number of issues and strategies to consider before attempting to use voice recognition with learners who have physical and communication difficulties.

Other publications

500 tips for working with children with special needs by Sally Brown (et al)

Kogan Page, 1998 ISBN 0749427892

This book deals with the government proposal that children with SEN should be more fully integrated into mainstream schools by the year 2001.

ACE special education handbook

Advisory Centre for Education (ACE) Publications, 1996 ISBN: 1870672305

The handbook covers the SEN Tribunal and describes how parents can appeal to the tribunal concerning the assessment and statementing of their child. Other legislation is included and the 1993 Education Act and the Children Act of 1989 are explained.

Arrangements for students with learning difficulties and/or disabilities requiring provision in 2000-01

Further Education Funding Council, 1999 FEFC circular Ref: 99/40

Implementing the Literacy Hour for pupils with learning difficulties by Ann Berger, Denise Morris (et al)
 David Fulton Publishers, 1999 ISBN 1853466158

A detailed guide to the Literacy Hour, with resource suggestions including ICT, and particular resource recommendations for pupils with severe difficulties.

Implementing the National Numeracy Strategy for pupils with learning difficulties by Ann Berger, Denise Morris (et al)

David Fulton Publishers, February 2000 ISBN 1853466646

This covers the key mathematical concepts which need to be taught, with resource and activity suggestions.

Information and Communications Technology for all by Colin Hardy

David Fulton Publishers, February 2000 ISBN 1853466735

This book offers practical guidance on using ICT to provide access to the curriculum for pupils with learning difficulties, plus coverage of topics such as in-service training, software selection, and using ICT for individualised education plans (IEPs), worksheets and record-keeping.

The SEN code of practice: three years on: the contribution of individual education plans to the raising of standards for pupils with educational needs

Office for Standards in Education (OFSTED), 1999 Reference no. HMI 211

This report can be copied from the OFSTED Web site <http://www.ofsted.gov.uk>, or a hard copy obtained from the OFSTED Publications Centre, P.O. Box 6927, LONDON E3 3NZ

Special education directory edited by Michael C. Darby

The School Government Publishing Co, 1995 ISBN 0900640375

A directory of special education in schools and local education authorities. It also provides details of national organisations offering further help.

Journals

Ace Bulletin

A publication which contains news, features and reviews of new publications in education. It is written with the parent's perspective in mind.

Six issues a year from Advisory Centre for Education (ACE) Ltd. (SEE 'Organisations' below)

British Journal of Special Education

A journal for professionals working in the SEN area which includes features on the education and the care of children and adults with SEN.

Quarterly from NASEN. (SEE 'Organisations' below)

Special!

A magazine provided for members of NASEN and also distributed to a wider audience.

Three issues a year from Hobsons Publishing plc, 159 St John Street, EC1, LONDON

Tel: 020 7336 0519

Special Children

A journal for teachers and parents and carers of special needs children, with news, articles, and product information. Covers current practical teaching strategies with photocopiable supplements of activity sheets and resources.

Nine issues a year from Questions Publishing, 27 Frederick Street, Hockley, BIRMINGHAM B1 3HH

Tel: 0121 212 0919 Fax: 0121 212 0959 E-mail: webmaster@questpub.co.uk

<http://www.education-quest.com/>

Support for Learning

A journal which looks at SEN issues in the primary school environment and occasionally examines the use of technology within discussions of models of best practice.

Quarterly from NASEN. (SEE 'Organisations' below)

Databases

ASSIST CD ROM

The Scottish Council for Educational Technology has SEN as a core service. It produces a CD-ROM which contains information on software, hardware and equipment, as well as publications and contact organisations throughout the United Kingdom. There is information relating to SEN and subscribers have access to an interactive bulletin board.

Organisations

For brevity and ease of maintaining these sheets, only the details of organisations central to the whole field of Special Needs are given on this sheet. Organisations specific to a particular special need are given on the separate sheet dealing specifically with that issue. For example, Dyslexia contacts are given on the sheet entitled *Dyslexia and ICT*. There is, however, a small set of useful specific special needs contacts given at the end of this section for which no specific sheet as yet exists.

General

Advisory Centre for Education (ACE) Ltd
Unit 1C Aberdeen Studios, 22 Highbury Grove, LONDON N5 2DQ
Tel: 020 7354 8321 Fax: 202 7354 9069 E-mail: ace-ed@easynet.co.uk
<http://www.ace-ed.org.uk/>

The Advisory Centre for Education (ACE) is an independent national education advice centre which produces a wide range of guidelines on education, several focusing on special education. A regular magazine, ACE Bulletin, provides up-to-date information on current issues as well as sign posting key publications and reports. A training course has been developed for parent partnership officers and others working with parents of children with SEN.

ACE (Aiding Communication in Education) Centre Advisory Trust
92 Windmill Road, OXFORD OX3 7DR
Tel: 01865 759800 Fax: 01865 759810 E-mail: info@ace-centre.org.uk
<http://www.ace-centre.org.uk/>

The ACE Centre Advisory Trust is now an independent charity which assesses young people in education with spoken or written communication difficulties and advises on approaches to improving their communication skills using the latest technological and other approaches. The ACE Centre assesses and advises on the combination of approaches, such as signing, symbol use, gesture and eye-pointing, often in conjunction with the use of electronic aids. The Symbol Users Advisory Group provides information on the use of symbols in the classroom, and aims to encourage the use of symbols in schools across the UK. An information pack is available. The Centre welcomes direct approaches from anyone associated with children and young people in full-time education. The Centre is also involved in many research and development projects, working with manufacturers of aids by advising on the special needs of communication impaired children, or developing specialised software to meet specific accessing and educational needs. A variety of publications are available.

ACE (Aiding Communication in Education) Centre North
1 Broadbent Road, Watersheddings, OLDHAM, Greater Manchester OL1 4HU
Tel: 0161 627 1358 Fax: 0161 627 0363 E-mail: ace-north@dial.pipex.com
<http://dSPACE.dial.pipex.com/town/terrace/ac969>

The area covered by the Centre includes the North of England, North Wales and Northern Ireland. It provides a specialist service for children, young people and adults with physical and communication disabilities and visual impairments in education, vocational training and employment. It offers in-depth assessment of individual needs, multi-disciplinary training advice and information in the use of technology. Their Web site offers a range of services enabling access to technology for pupils and students with physical and/or communication impairments.

Advisory Unit: Computers in Education
126 Great North Road, HATFIELD, Hertfordshire AL9 5JZ
Tel: 01707 266714 Fax: 01707 273684
<http://www.advisory-unit.org.uk/special.html>

An independent organisation offering support for educational computing for all schools and providing a comprehensive service to help schools use computers effectively. The range of SEN services includes helping teachers of those with severe learning difficulties, specific learning difficulties or physical disabilities.

Aidis Trust
1 Albany Park, Cabot Lane, POOLE, Dorset BH17 7BX
Tel: 01202 695244 Fax: 01202 695322 E-mail: info@aidis.org
<http://www.aidis.org/>

This charity provides computer communication systems for people with disabilities.

Basic Skills Agency

Commonwealth House, 1-19 New Oxford Street, LONDON WC1A 1NU

Tel: 020 7405 4017 Fax: 020 7440 6626 E-mail: enquiries@basic-skills.co.uk

<http://www.basic-skills.co.uk/>

The Basic Skills Agency (formerly the Adult Literacy and Basic Skills Unit – ALBSU) is the national agency for literacy, numeracy and related basic skills in England and Wales. The Unit provides consultancy and advisory services, funds projects, undertakes research and produces a wide range of teaching and learning materials.

British Computer Society (BCS) Disability Specialist Group

Geoff Busby, EASAMS Ltd, Room C126, Great Baddow, CHELMSFORD CM2 8HN

Tel: 01245 242924 Fax: 01245 478317 E-mail: geoffrey.busby@gecm.com

The BCS Disability Group is a voluntary organisation which aims to identify and promote ways in which computer technology can improve the quality of life of disabled people. Membership is open to anyone with an interest in this field. Its activities include providing information and advice, running conferences and producing an informative newsletter called *Ability*.

British Educational Communications and Technology agency (Becta)

Milburn Hill Road, Science Park, COVENTRY, West Midlands CV4 7JJ

Tel: 024 7641 6994 Fax: 024 7641 1418 E-mail: Becta@becta.org.uk

<http://www.becta.org.uk/>

Becta, formerly the National Council for Educational Technology (NCET), produces publications and provides information about SEN. It works with a wide range of organisations and individuals, including staff in schools and colleges, to look at ways of improving access for learners with physical, sensory or learning disabilities. It evaluates the potential of new and existing computer applications and identifies how these can provide access and enhance the curriculum for all students. In addition, it is exploring how ICT can improve the self-image of students with learning difficulties and disabilities. A section on the Web site is entitled 'SEN and Inclusion area', and provides information and resources for teachers working with pupils who have SEN and who aim to work in an inclusive way. Much of the material focuses on the particular benefits that ICT can offer students.

Centre for Disability Studies

University of Portsmouth, King Henry Building, King Henry I Street, PORTSMOUTH PO1 2DY

Tel: 01705 846312 Fax: 01705 846300

<http://www.port.ac.uk/departments/psychology/centres/CDS/index.htm>

The Centre for Disability Studies is part of the Department of Psychology at the University of Portsmouth. It was formed in 1997 to bring together current expertise in the area of disability within the Department of Psychology. Many of the Centre for Disability's research staff were based at the Sarah Duffen Centre, a research centre engaged in fundamental research on cognitive, social and psychobiological aspects of development in children with Down syndrome. Work at the Centre covers research, teaching and consultancy.

Centre for Studies on Inclusive Education (CSIE)

1 Redland Close, Elm Lane, Redland, BRISTOL BS6 6UE

Tel: 0117 923 8450 Fax: 0117 923 8460

<http://inclusion.uwe.ac.uk/csie/>

CSIE is a British independent educational charity, a national centre funded mainly by donations from trusts and foundations. The Centre, which was set up in 1982, gives information and advice about inclusive education and related issues. It collects and disseminates information, provides advice and consultancy, and publishes a range of booklets and fact sheets. It works direct with parents and people with disabilities or difficulties in learning, as well as with LEAs and voluntary organisations.

The Chatback Trust

Tom Holloway, 6 St Mary's Crescent, LEAMINGTON SPA, Warwickshire CV31 1JL

Tel: 01926 888333 Fax: 01926 771707

<http://www.rmplc.co.uk/eduweb/sites/chatback/>

Chatback: the world-wide electronic school, was set up in 1986 to provide an electronic mail facility for up to 100 schools in the UK and abroad. Most are special schools, but all cater for children who have some mental or physical difficulty with communicating. Schools are asked to form a school

Chatback Club, and each Chatback Club is given a mailbox for use by the class or group of children. The project encourages young people to correspond with each other for social interaction and, where a curriculum is being followed, for work on classroom subjects. Children in Argentina, Australia, Canada, Estonia, Germany, Italy, Japan, Lithuania, Poland and the USA are communicating by e-mail.

Communication Aids Centres

These centres are connected to the health services and offer care and assessment services. There are centres in London, Belfast, Bristol, Birmingham, Edinburgh, Glasgow and Newcastle upon Tyne. Contact the ACE Centre, Oxford (address details above) for further information.

The Communication Aids for Language and Learning Centre (CALL)

The CALL Centre, University of Edinburgh, Paterson's Land, Holyrood Road, EDINBURGH EH8 8AQ

Tel: 0131 651 6235/6 Fax: 0131 651 6234 E-mail: call.centre@ed.ac.uk

<http://callcentre.education.ed.ac.uk/>

A service and research unit within the University of Edinburgh's Institute for the Study of Education and Society (ISES). The team is dedicated to serving those in Scotland with severe communication difficulties, physical disabilities and mobility problems. CALL offer a range of services including enquiry and consultation, publications, loan of equipment, specialised assessment, and staff training.

Computer Applications to Special Education (CASE)

Department of Psychology, University of Keele, KEELE, Staffordshire ST5 5BG

Tel: 01782 583386 Fax: 01782 583387

The main activity of this research unit is a Diploma in ICT for Special Needs by distance learning, plus research and development roles.

Department for Education and Employment (DfEE)

<http://www.dfee.gov.uk/newslist.htm>

This Web site gives the latest news from the DfEE. The press release of 17 November 1999 announced that a new SEN draft bill is designed to improve the support available to parents of children with SEN. The bill is suggesting that local education authorities be required to offer a 'parent partnership' service and to provide information on the services available to schools, parents and local agencies. There is also a recommendation that LEAs be required to establish conciliation arrangements to resolve disputes over choice of schooling.

Disability in Higher Education (DISinHE)

DISinHE Centre, Department of Applied Computing, University of Dundee, DUNDEE DD1 4HN, Scotland, UK

Tel: 01382 345050 Fax: 01382 345509 E-mail: enquiries@disinhe.ac.uk

<http://www.disinhe.ac.uk>

This is a new charity. Advice on accessibility and technology is offered, and information is being gathered on the technological support services available for students with disabilities.

Hereward College

Bramston Crescent, Tile Hill Lane, COVENTRY CV4 9SW

Tel: 024 7646 1231 Fax: 024 7669 4307 E-mail: enquiries@hereward.demon.co.uk

<http://www.hereward.demon.co.uk>

Hereward College is home to the ACCESS Centre, currently the Administrative Base of the National Federation of ACCESS Centres (NFAC). The NFAC was first established in 1986 and it now consists of 22 federated but independent member centres throughout the UK. The NFAC is a unique venture within the European Community, a pioneering initiative in ways of utilising ICT, enabling devices and specialist learning and living strategies for people with physical and sensory disabilities.

Learning Disabilities Association

4156 Library Road, PITTSBURGH, PA 15234-1349, United States

Tel: (412) 341 1515 Fax: (412) 344 0224

<http://www.ldanatl.org/>

LDA is a national organisation in United States including individuals with learning disabilities, their families and professionals.

Microelectronics & Computers in Education (MACE)

West Midlands Regional Centre, Bourne House, Radbrook Road, SHREWSBURY SY3 9BJ

Tel: 01743 246464 Fax: 01743 246464

The centre provides a forum for information exchange and training on ICT and SEN, between inspectors, advisers and advisory teachers of the West Midlands LEAs.

National Association for Special Educational Needs (NASEN)

4-5 Amber Business Village, Amber Close, Amington, TAMWORTH, Staffordshire B77 4RP

Tel: 01827 311500 Fax: 01827 313005 E-mail: welcome@nasen.org.uk

<http://www.nasen.org.uk/>

NASEN is the major organisation representing professionals working in the field of SEN. It has a national network of active branches, including an ICT Group, and runs conferences and seminars. NASEN produces three key periodicals: *Special!*, *British Journal of Special Education* and *Support for Learning*.

National Bureau for Students with Disabilities (Skill)

Chapter House 18-20 Crucifix Lane, LONDON SE1 3JW

Tel/Text: 020 7450 0620 Fax: 020 7450 0650 E-mail: Info@skill.org.uk

<http://www.skill.org.uk>

A voluntary organisation which offers an information service, (voice/minicom) to students with disabilities and/or learning difficulties or people working with them. Publications and information leaflets are available. Skill also offers a membership scheme with newsletters and a journal.

National Federation of ACCESS Centres

South West Regional Access Centre, Babbage Building, University of Plymouth, Drake Circus, PLYMOUTH TL4 8AA

Tel: 01752 232278 Fax: 01752 232279 Minicom: 01752 232285

<http://www.plymouth.ac.uk/services/help-advice/acservdis.htm>

This is a national network of specialist centres in further and higher education which seeks to support and empower students with physical disabilities, sensory impairment or learning difficulties. The centres undertake assessments for the Open University and LEAs, and have begun to help students with specific learning difficulties. Each centre offers an assessment service and can provide training.

Office for Outreach, Advice, Assistance, Support and Information on Special Needs (OAASIS)

c/o Southlands School, Vicars Hill, Boldre, LYMINGTON, Hampshire SO41 5QB

Tel: 09068 633201 Fax: 01590 622687 E-mail: oaasis@dial.pipex.com

<http://www.hesleygroup.co.uk/oaasis.htm>

OAASIS offers advice, information, publications and training to parents and professionals on many aspects of special education.

Parents Information Network (PIN)

PO Box 16394, LONDON SE1 3ZP

Tel: 020 7357 9078 Fax: 020 7357 9077 E-mail: editor@pin-parents.com

<http://www.pin-parents.com>

PIN is a national independent organisation committed to the needs and interests of parents, carers and children. PIN works with parents in supporting the understanding and practice of ICT and is committed to partnership with teachers and schools. PIN have produced a guide for parents on the ways computers can support children with learning difficulties.

Qualifications and Curriculum Authority

29 Bolton Street, LONDON W1Y7PD

Tel: 020 7509 5555 Fax: 020 7509 6666 E-mail: webinfo@qca.org.uk

<http://www.qca.org.uk>

The Qualifications and Curriculum Authority (QCA) replaced the School Curriculum and Assessment Authority (SCAA) and the National Council for Vocational Qualifications (NCVQ) in 1997. They cover the curriculum for all levels of education, and are committed to promoting education and training, and developing achievement. They will build on the work of SCAA and NCVQ in the area of special learning needs, taking account of individual requirements arising from disability, race, gender or high ability.

Rathbone Society

Head Office, 4th Floor, Churchgate House, 56 Oxford Street, MANCHESTER M1 6EU

Tel: 0161 236 5358 Fax: 0161 236 6356 E-mail: info@rathbone-ci.co.uk

<http://www.rathboneci.demon.co.uk/>

Provides an advice and information service to the parents, carers and professionals who have responsibility for people with learning difficulties and other special educational or training needs. The National Information Line will respond to any queries, whether they concern health, education or welfare, and offers information about services, resources, literature and organisations. Specialises in addressing the problems parents face in gaining appropriate educational provision for their children and guides parents through the assessment and statementing process. Have published a number of useful leaflets and guides for school governors and for parents, outlining rights and responsibilities.

Royal Association for Disability and Rehabilitation (RADAR)

12 City Forum, 250 City Road, LONDON EC1V 8AF

Tel: 020 7250 3222 Fax: 020 7250 0212 Minicom: 020 7250 4119 E-mail: radar@radar.org.uk

<http://www.radar.org.uk>

A national organisation working with and for disabled people.

Scottish Council for Educational Technology (SCET)

74 Victoria Crescent Road, GLASGOW G12 9JN, Scotland, UK

Tel: 0141 337 5000 Fax: 0141 337 5050 E-mail: enquiries@scet.com

<http://www.scet.com>

SCET produces a wide range of software and training materials, many of which support SEN learners and professionals. It also runs a bulletin board called Contact which enhances communication within the SEN community. SCET and the Consultative Council on the Curriculum (CCC) are merging to form 'Learning & Teaching Scotland' on 1 July 2000, with the added responsibility of implementing and supporting the National Grid for Learning in Scotland.

Special Educational Needs Joint Initiative for Training (SENJIT)

Institute of Education, University of London, 20 Bedford Way, LONDON WC1H 0AL

Tel: 020 7612 6273/4 and 020 7612 6305 Fax: 020 7612 6994 E-mail: n.peacey@ioe.ac.uk

http://www.ioe.ac.uk/teepnnp/SENJIT_Home.html

SENJIT was established to cope with the SEN staff development concerns, and offers training for staff involved through courses, workshops, support to teachers, advice on SEN staff development, and resources. Services are based on a yearly subscription.

Special Needs Explanatory: the Special Needs Research and Development Centre (SNRDC)

Centre for Educational Research, Faculty of Education, Canterbury Christ Church University College, North Holmes Road, CANTERBURY, Kent CT1 1QU

Tel: 01227 767700 Fax: 01227 470442

<http://www.canterbury.ac.uk/xplanatory/xplan.htm>

The Special Needs Explanatory is a collection of resources that have been developed and collated in response to student needs on the courses at Canterbury Christ Church College. It is an interactive resource concerned with meeting SEN for professionals and includes a collection of pages of resources, information and ideas related to the support of learners with SEN. It is free to access.

University of Dundee

DUNDEE DD1 4HN, Scotland.

Tel: 01382 344151 Fax: 01382 345509 E-mail: lcross@computing.dundee.ac.uk

<http://www.computing.dundee.ac.uk>

The Department of Applied Computing is a centre for R&D in the field of communication aids and writing tools. They developed one of the early word predictors, PAL, and are still very active in this area. Of particular interest is the speeding up of communication for those without speech.

University of Westminster

72 Great Portland Street, LONDON W1N 5AL

Tel: 020 7911 5161 Fax: 020 7911 5162 Minicom: 020 7911 5163

<http://www.wmin.ac.uk/ccpd/>

The Computer Centre for People with Disabilities (an Access centre) is well worth visiting on the Web if you need information computer access to adult/academic work.

Whitefield School and Centre (Special Needs Library and Information Service)
MacDonald Road, Walthamstow, LONDON E17 4AZ

Tel: 020 8531 3426 E-mail: WHITEFIELD_edu@classic.msn.com

This is a resource centre and a library which produces a SEN Current Awareness Bulletin (six issues a year). Bibliographies of their own resources can be produced on request.

Software Suppliers

You should check on Becta's Educational Software database – <http://vtc.ngfl.gov.uk/resource/esr/> – for fuller details on any titles cited below and to obtain a wider range of software products, but the companies below are examples of those specialising in SEN software.

Crick Software

35 Charter Gate, Quarry Park Close, Moulton Park, NORTHAMPTON NN3 6QB

Tel: 01604 671691 Fax: 01604 671692 E-mail: info@cricksoft.com

<http://www.cricksoft.com/>

An important supplier of SEN software. Web site has grids which can be downloaded free.

Inclusive Technology Ltd

Saddleworth Business Centre, Huddersfield Road, Delph, OLDHAM OL3 5DF

Tel: 01457 819790 Fax: 01457 819799 E-mail: inclusive@inclusive.co.uk

<http://www.inclusive-technology.com/>

An important supplier of SEN software. Provide much helpful information for SEN.

Laureate Learning Systems

Rompa, Goyt Side Road, CHESTERFIELD, Derbyshire S40 2PH

Tel: 0845 300 0899 Fax: 01246 505155 E-mail: advice@laureatelearning.co.uk

<http://www.laureatelearning.co.uk>

Supply talking software, particularly suitable for early learners with English as a second language.

Rickitt Educational Media (REM)

Great Western House, LANGPORT, Somerset TA10 9YU

Tel: 01458 253636 Fax: 01458 253646

<http://www.r-e-m.co.uk/>

A major supplier of educational software, with a large amount relating to special needs.

SEMERC

Granada Learning, Granada Television, Quay Street, MANCHESTER M60 9EA

Tel: 0161 827 2778 Fax: 0161 827 2966 E-mail: info@granada-learning.com

<http://www.granada-learning.com>

One of the major providers of SEN software.

White Space Ltd

41 Mall Road, LONDON W6 9DG

Tel/Fax: 020 8748 5927 E-mail: tiggsave@aol.com

<http://www.wordshark.co.uk/>

Suppliers of literacy and numeracy software especially suitable for dyslexics.

Widgit Software

26 Queen Street, Cubbington, LEAMINGTON SPA CV32 7NA

Tel: 01926 885303 Fax: 01926 885293 E-mail: literacy@widgit.com

<http://www.widgit.com/>

Produce software using symbols and images suitable for all ages. The Web site gives information for teachers and parents, and provides free software.

Specific special needs not covered in any other information sheet at this time

Autism Independent UK

(formerly Society for Autistically Handicapped (SFTAH))

199–205 Blandford Avenue, KETTERING, Northamptonshire NN16 9AT

Tel: 01536 523274 Fax: 01536 523274 E-mail: autism@rmplc.co.uk

<http://www.autismuk.com/>

The Web site carries many informative articles and news items.

The Down Syndrome Educational Trust

The Sarah Duffen Centre, Belmont Street, SOUTHSEA, Hampshire PO5 1NA

Tel: 023 9282 4261 Fax: 023 9282 4265

<http://www.downsnet.org>

Provides specialist advice, training and publications on Down syndrome. Supports and conducts original research.

Down Syndrome WWW home page

<http://www.nas.com/downsyn/index.html>

A US site, established in February of 1995, compiled from the contributions of members of the Down Syndrome listserv and newsgroup. It contains articles, essays, toy catalogues and more for children with SEN.

Down's Syndrome Association (DSA)

155 Mitcham Road, LONDON SW17 9PG

Tel: 020 8682 40001 Fax: 020 8682 4012

<http://www.downs-syndrome.org.uk/>

The HelpNet Down Syndrome page gives information about the Down's Syndrome Association and a link to a discussion forum. The Association, founded in 1970, is the only national charity covering England Wales and Northern Ireland which works exclusively with people with Down's Syndrome. It exists to provide support, information, advice and counselling to people with Down's syndrome, their parents/carers, families and those with a professional interest.

Dyspraxia Foundation

8 West Alley, HITCHIN, Hertfordshire SG5 1EG

Tel: 01462 454986 Fax: 01462 455052 E-mail: dyspraxiafoundation@hotmail.com

<http://www.emmbrook.demon.co.uk/dysprax/homepage.htm>

For anyone with an interest in dyspraxia, but particularly helpful for parents of dyspraxic children. It puts parents and children in contact locally and nationally and arranges regular meetings for members.

Fraxa Research Foundation

45 Pleasant Street, NEWBURYPORT, MA 01950, United States

Tel: 978 462 1866 Fax: 978 463 9985

<http://www.fraxa.org/>

FRAXA is a national, non-profit organisation run by parents and medical professionals supporting research aimed at treatment for Fragile X Syndrome.

The National Autistic Society (NAS)

393 City Road, LONDON EC1V 1NG

Tel: 020 7833 2299 Fax: 020 7833 9666 E-mail: nas@nas.org.uk

http://www.oneworld.org/autism_uk/

The Society works in co-operation with others to find ways to help people with autism to live their lives with as much independence as possible. Their Web pages provide detailed information about advice, information and training services.

Scottish Down's Syndrome Association (SDSA)

158/160 Balgreen Road, EDINBURGH EH11 3AU

Tel: 0131 313 4225 Fax: 0131 313 4285 E-mail: info@sdsa.org.uk

<http://www.sdsa.org.uk/>

This association has a network of branches throughout Scotland, and a telephone advice service, which is supported by independent advisers in education and medicine. It produces a series of booklets called 'Living with Down's Syndrome' and a quarterly newsletter.

Where to find Down's Syndrome resources in the United Kingdom

http://www.43green.freemove.co.uk/uk_downs_syndrome/ukdsinfo.html

Compiled by two parents, this site provides a list of United Kingdom organisations for people concerned with Down's Syndrome. The organisations are listed under the following headings: Down's Syndrome, Advice on education, Disability resources and Legal advice.

Internet

There are many Internet sources which may be of help, and the URLs are cited alongside the organisation, publication or other source to which the site pertains. This section is limited to sources believed to be available only via the Internet or foreign sites where access will be greatly eased by making use of the Internet.

General

Centre for Applied Special Technology (CAST)

<http://www.cast.org/>

CAST is an educational, not-for-profit organisation based in the USA. Their Web site describes and promotes the concept of universal design. They also provide an on-line facility, called Bobby, for checking whether your Web pages are accessible for people with disabilities.

Healthworks Online

<http://www.healthworks.co.uk/>

This Web site includes a newsletter, incorporating an assistive technology newsletter, for people with disabilities and those who care for them.

IBM Special Needs Systems

<http://www.rs6000.ibm.com/sns/>

Advice, resources, and contacts and IBM products for all disabled people.

Microsoft Accessibility Support

<http://www.microsoft.com/enable/>

Advice, resources, and news from Microsoft to assist disabled users.

Times Educational Supplement Online (TES)

<http://www.tes.co.uk>

The TES Web site not only gives the latest and past news but is full of helpful information for teachers including SEN, and also ICT, giving details of courses, conferences and organisations.

World Wide Web Consortium (W3C)

<http://www.w3c.org/WAI/>

The Web Accessibility Initiative (WAI) by the World Wide Web Consortium is pursuing accessibility of the Web for people with disabilities, in co-ordination with organisations around the world. There is a section on resources, including guidelines on how to make Web content accessible to people with disabilities, with explanatory technical appendices.

Bookshops

<http://www.takethat.co.uk/links.htm>

Index page giving access to a wide range of bookshops including, for example, Amazon, Internet Bookshop (WH Smith) and Book PI@ce.

Specific Special Needs Sites

AbilityNet

<http://www.abilitynet.co.uk/>

AbilityNet is a national UK charity which aims to provide impartial, expert advice about computer technology for all disabled people.

The Adaptive Technology Resource Centre (ATRC), University of Toronto

<http://www.utoronto.ca/atrc/>

This Centre provides useful information generally to those involved in the education of learners with disabilities and SEN, and they have undertaken research into accessible Web content authoring. A particularly useful resource is *A-prompt* which works with Web authoring software, and lets the creator know when access issues need addressing.

CanDo: disability careers network

<http://cando.lancs.ac.uk/scripts/d/start.idc>

CanDo is the national British careers Web site for all disabled university students and graduates, and university staff with an interest in disability.

Centre for Disability Studies

<http://www.port.ac.uk/departments/psychology/centres/CDS/index.htm>

Conduct research into psychological development of children with Down syndrome and other disabilities.

Closing the Gap: Microcomputer Technology for People with Special Needs

<http://www.closingthegap.com>

This US Web site is a good source for information on innovative applications of microcomputer technology in special education and rehabilitation.

Computability Centre

PO Box 94, WARWICK CV34 5WS

Freephone: 0800 269545 Tel: 01926 312847 Fax: 01926 311345

<http://www.bcs.org.uk/computab/index.htm>

This is a national charity which provides a freephone advice and helpline on all aspects of computing and disability, including RSI. Undertakes assessments and runs open days for disabled individuals and awareness courses for employers and health care professionals.

Disability Net

<http://www.disabilitynet.co.uk/>

A world-wide information and news service for all disabled people and people with an interest in disability issues.

The Inclusion Site

<http://inclusion.ngfl.gov.uk/>

A new site on the National Grid for Learning (NGfL) providing a catalogue of on-line resources to support individual learning needs, and provide rapid, targeted access to a wide range of educational resources and materials. Provides information and resources for teachers working with SEN pupils and aiming to work in an inclusive way, and shows the particular benefits that ICT can offer students.

International Special Education Congress 2000 (ISEC)

<http://www.isec2000.org.uk>

The most recent congress ran from 24-28 July hosted by the University of Manchester for 2000: a forum for the exchange of ideas and experiences on progress towards inclusive education. Related Web sites linked. Congresses are held every four years.

The Multimedia Enabling Technologies Group (MET)

<http://met.open.ac.uk/>

These pages examine innovations in multimedia and 'enabling technologies' and how they can be used in teaching and learning.

National Center to Improve Practice in Special Education (NCIP)

<http://www.edc.org/FSC/NCIP>

The National Center (United States) aims to improve practice in special education through technology, media and materials. It promotes the effective use of technology to improve educational outcomes for students with disabilities.

Special Educational Needs

<http://www.dfes.gov.uk/sen/senhome.htm>

This NGfL site aims to provide a wide range of advice and materials for teachers, parents and others interested in or working with children with SEN.

While every care has been taken in the compilation of this information to ensure that it is accurate at the time of publication, Becta cannot be held responsible for any loss, damage or inconvenience caused as a result of any error or inaccuracy within these pages. Although all references to external sources (including any sites linked to the Becta site) are checked both at the time of compilation and on a regular basis, Becta does not accept any responsibility for or otherwise endorse any information contained in these pages including any sources cited.

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