

# Autism and Computing for Children Under 5

## How can a computer help

The Autistic Spectrum is very broad continuum, presenting a wide range of difficulties and needs. We therefore always treat each child as an individual as appropriate solutions may be completely different from one child to the next. So, why might a computer help? Colin Hardy, in his book *ICT for All* (2000) and Dinah Murray in her book *Autism and information technology* (1997) discussed the following ideas;

- Children with Autism may need reduced stimuli and explicit visual or auditory clues a computer can be set to reduce all unnecessary information and promote a child when necessary. For example a coloured screen that will only change when the screen or a button/switch is pressed. Specific software resources can help with an understanding of cause and effect.
- The computer monitor or adapted toys can offer a less threatening focus for attention when working alone or with other children.
- Simple drawing and colouring in programs offer immediate feedback and the opportunity to “undo” errors.
- Game programs offer a good opportunity for children to play alongside others, offering the potential to build relationships with others. The computer can therefore be a useful tool in encouraging co-operative playing and dialogue through a common interest.

## Adapting the Computer

### Switches

A switch is an alternative input device that can be used with specially adapted toys or using a computer. Switches can come in many shapes and sizes. In relation to children with autism a switch can be a good starting point to introduce a child to a computer as it can be less threatening or complicated than a keyboard or mouse.



### Touch Screens

Touch Screen monitors can be beneficial for children who have difficulty understanding the relationship between the movement of the mouse and the placement of the cursor on the screen. Some children can struggle with using a switch as it may be too indirect. Pointing at something can be a natural way for a child to communicate and pointing on the touch monitor creates an immediate response on the screen. More information about these devices can be found on the 'Using Touch Monitors' factsheet,

<http://www.abilitynet.org.uk/play/factsheets.htm>



### Single Button Mouse

A single button mouse works as a standard mouse, with only one button to press. This can help children on different levels of the autistic spectrum. It can help those children who have difficulty distinguishing between a left and right mouse click. Having only one mouse button can also prevent higher functioning children with autism from accessing areas of the computer as they no longer have the facility of a right click button, ensuring they are concentrating on the activity on screen..



## Keyboards

For some children with autism a standard keyboard can be confusing visually and difficult to use. To overcome these difficulties there are a range of alternative keyboards available, for example keyboards with large keys, lowercase letters and ABC layouts. For further information refer to our following factsheets



“Using Assistive Technology with Pre-school Children with Learning Difficulties”

<http://www.abilitynet.org.uk/play/factsheets.htm>

“Keyboarding and Touch Typing for Children”

[http://www.abilitynet.org.uk/athome\\_factsheets](http://www.abilitynet.org.uk/athome_factsheets)

## Software

There is a range of cause and effect software available to encourage children to interact with the computer. The software titles have a range of activities to meet many needs. Some of this software is available free either by downloading from websites or playing directly on websites. Please to refer the list at the end of this factsheet.

There is also a range of software you can buy and we would recommend visiting the Inclusive Technology website and looking at their catalogue of resources under the early learners section. [www.inclusive.co.uk/catalogue/index.html](http://www.inclusive.co.uk/catalogue/index.html)

All of this software can be accessed either by using a touch screen, switch, mouse device or space bar on the keyboard.

For those children who are able to learn to use a keyboard there is also software available to build on their keyboard skills. For example First Keys 3 from Widgit Software – [www.widgit.com](http://www.widgit.com) and Easi Keysi from Sherston Software.

<http://shop.sherston.com> and there are also free games available to download or play online. Some are listed on our factsheet “Keyboarding and Touch Typing for Children” [http://www.abilitynet.org.uk/athome\\_factsheets](http://www.abilitynet.org.uk/athome_factsheets)

**Free downloadable software & websites offering free games and activities.**

We have listed below the website addresses where you can obtain free software and we have also listed some websites that have free games and activities that are switch accessible so that you can share the information with colleagues, other nurseries, children centres and families you work with.

Web Site	Description
<a href="http://www.shinylearning.co.uk/freegames/index.shtml">www.shinylearning.co.uk/freegames/index.shtml</a>	free switch-accessible games. Play the games online in your browser or download stand-alone versions for Windows.
<a href="http://www.tuxpaint.org/">www.tuxpaint.org/</a>	Free noisy painting program
<a href="http://www.procreo.jp/labo/flower_garden.swf">www.procreo.jp/labo/flower_garden.swf</a>	Only one program but great for making a flower garden with a mouse or touch screen.
<a href="http://www.northerngrid.org/ngflwebsite/sennew/sen_software.html">www.northerngrid.org/ngflwebsite/sennew/sen_software.html</a>	SEN Switcher
<a href="http://www.oneswitch.org.uk/">www.oneswitch.org.uk/</a>	A resource with some great arcade style switch games.
<a href="http://www.helpkidzlearn.com">www.helpkidzlearn.com</a>	free games and activities from Inclusive Technology
<a href="http://www.inclusive.co.uk/downloads/downloads.shtml">www.inclusive.co.uk/downloads/downloads.shtml</a>	Music Games, Talking Faces and SEN Switcher
<a href="http://prioritywoods.middlesbrough.sch.uk/resources/restop.htm">http://prioritywoods.middlesbrough.sch.uk/resources/restop.htm</a>	Fun switch games designed by pupils with SEN. Also includes a Big Book Template to create your own talking books.
<a href="http://www.camgoo.com/content/uk/home.php">www.camgoo.com/content/uk/home.php</a>	Download free demo software to use with a webcam.
<a href="http://www.symbolworld.org">www.symbolworld.org</a>	SymbolWorld is a website created by Widgit Software, dedicated to people who use symbols. It has material for all ages and includes personal contributions, stories and learning materials.
<a href="http://www.playkidsgames.com">www.playkidsgames.com</a>	Free games to build mouse skills. Some games are particularly aimed at learning the alphabet.
<a href="http://www.starfall.com">www.starfall.com</a>	Free learning games to build mouse skills. Would be great to use them in an inclusive setting where the teacher is playing the games with the children.
<a href="http://www.bbc.co.uk/cbeebies/grownups/about/specialneeds/">http://www.bbc.co.uk/cbeebies/grownups/about/specialneeds/</a>	Including switch games and mouse & keyboard games to build skills.
<a href="http://www.allkids.co.uk/kids_pages/childrens_free_fun_sites.shtml">www.allkids.co.uk/kids_pages/childrens_free_fun_sites.shtml</a>	A site packed with lots of information surrounding children and PLAY including links to online stories and games.
<a href="http://rjcooper.com">http://rjcooper.com</a>	A site that has a range of switch, mouse and keyboard activities that allows you to download and use FREE up to 7 times.
<a href="http://www.fxc.btinternet.co.uk/assistive.htm">http://www.fxc.btinternet.co.uk/assistive.htm</a>	Includes: Free Mouse Pointers,

## Useful Contacts

### **The National Autistic Society**

393 City Road, London, EC1V 1NE

Tel: 0845 070 4004

Web: [www.nas.org.uk](http://www.nas.org.uk)

Please note this site has many regional support networks across the UK

### **Special Kids in the UK**

PO Box 617, Addlestone, KT15 9AP.

Tel: 0776 54 66 818

Web: [www.specialkidsintheuk.org](http://www.specialkidsintheuk.org)

### **The Asperger's Syndrome Foundation**

The Kensington Charity Centre, 4th Floor, Charles House, 375 Kensington High Street  
London, W14 8QH

Web: [www.aspergerfoundation.org.uk](http://www.aspergerfoundation.org.uk)

### **Handsel Trust**

Parks Farm, Clifford Herefordshire, HR3 5HH

Tel: 01497 831550

Web: [www.handseltrust.org](http://www.handseltrust.org)

### **AutreachIT**

26 Hawgood Street, London, E3 3RU

Web: <http://autreach.backpackit.com/pub/1345112>

## Useful References

Hardy et al      Autism and ICT (2002) David Fulton Publishers

Hardy            ICT for All (2000) David Fulton Publishers

Murray          Autism and Information Technology (1997) David Fulton Publishers

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