



# Computers and children who have difficulty learning

By Samantha Hornery, Director Southern Suburbs Branch

**Children with learning difficulties benefit from concepts being taught in a variety of ways on a regular basis and being provided with many opportunities to practise new skills.**

We need to rehearse new skills many times before they are stored in our long-term memory. Computers will never take the place of explicit teaching but they do provide invaluable practice and repetition of skills, as children are interested and motivated to learn when using a computer.

## The benefits of computers

There are many benefits of encouraging children with learning difficulties to use a computer.

- Children enjoy using the computer and happily spend long periods of time at the computer learning to use it efficiently. The multi-coloured graphics and game formats with sound appeal to children more than traditional paper-and-pencil tasks.
- Learning is optimised when a child is interested in what they are doing. Children are more likely to do the drill work necessary for the acquisition of maths facts in game format and consequently learn the skill.
- A computer does not chastise, it allows many opportunities to try again and most importantly, it does not judge. It is a non-threatening teaching tool, helping to keep a child's self esteem intact.

- Children with learning difficulties are able to take their time on the computer without condemnation or pressure. They can make mistakes and try again and their mistakes aren't publicised.
- The computer rewards children on a regular basis for correct answers – it provides immediate feedback. This is very important and effective for a child with learning difficulties.
- Connecting headphones enables a child with learning and attention difficulties to benefit from a computer as well. The headphones allow a child to focus on the bright and attractive screen without being distracted by classroom noise. Care must be taken, though, to select software that is not too busy or stimulating. Research has shown that using a computer increases on-task behaviour for children with learning difficulties from 30-60% without a computer to 80-90% with a computer.
- Instructions and content can be individualised to the child's needs and functional level as well as their learning speed.
- Children are successful when using the computer and gain confidence from their achievements. This encourages them to continue.

## A level playing field

The most powerful use of the computer for a child with learning difficulties is in word processing and publishing.

Research has found that when a child with learning difficulties is allowed to use a computer, they produce more written work. It is clearly advantageous to allow this for children with learning difficulties.

The writing process is one of the most difficult tasks expected at school. It involves the coordination of all literacy skills combined with a bright imagination and the physical ability to write.

Children must be able to express what they are trying to write orally before they can be expected to commit it to paper. When writing they are exposing their ability to form letters and spell words correctly. It is a daunting task that often causes much anxiety and many children become reluctant writers.

A child who experiences difficulty with fine motor skills (holding a pencil, writing neatly or drawing), expressive language (composing sentences, organising thoughts or translating oral language into written language), or academic skills (spelling, using punctuation and grammar or knowledge of text types) will find the process of writing difficult and can benefit from the technology of computers.

**Learning Links is a non-profit charity assisting children who have difficulty learning and their families.**

We raise funds to help children from birth to 18 years by offering a range of services including the following.

**Early Childhood Services** for children from birth to six years.

- Early childhood intervention and support for very young children.
- An inclusive preschool for children with and without special needs.
- An assessment and consultancy service for families who are concerned about their young child's development.
- Specialist early childhood teaching and therapy.

**School Age Services** for children from Kindergarten to Year 12 who have low support needs.

- Comprehensive assessments.
- Small group tuition and therapy.
- Occupational and speech therapy programs combining specialist education services and therapy.
- Outreach programs.
- The Ronald McDonald Learning Program for seriously ill children and the Reading for Life Program for children falling behind in their reading.

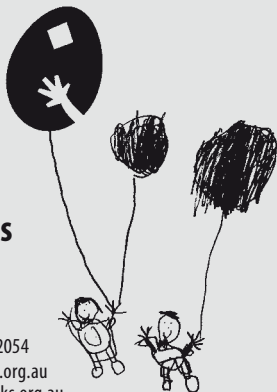
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- Centre and home-based family counselling.
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Presentations, workshops and advice on identifying and helping children with learning difficulties, learning disabilities and developmental delays.

**Learning Links has branches in six Sydney locations at Peakhurst, Penshurst, Fairfield, Miller, Dee Why and Randwick. We also offer some services to children in country NSW, the ACT, Victoria and New Zealand. A complete list of branch locations and contact numbers is on the back cover.**



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### Head Office

12-14 Pindari Road  
Peakhurst NSW 2210  
Tel: 9534 1710 Fax: 9584 2054  
Email: [mail@learninglinks.org.au](mailto:mail@learninglinks.org.au)  
Website: [www.learninglinks.org.au](http://www.learninglinks.org.au)

Enquiries regarding this Information Sheet should be directed to Robyn Collins  
Tel: (02) 9534 1710 Fax: (02) 9584 2054 Email: [rcollins@learninglinks.org.au](mailto:rcollins@learninglinks.org.au)

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Ideally, children with moderate to severe fine motor difficulties could access a personal laptop to take to school and eliminate the stress, anxiety and effort associated with writing by hand. Financial constraints will obviously rule this out for many families.

Computers allow a child with fine motor difficulties to type their work, using either a standard keyboard or a modified keyboard and mouse. Interactive typing programs are available to teach children how to touch type to make this task easier. Voice recognition software, whilst still a little problematic, is also available for children who find the process of typing too difficult.

Word processors assist a child with fine motor difficulties present their written work well with clear fonts, page formatting functions and clip art.

Advances in computer software have transformed the way children with learning difficulties and poor expressive language can produce written texts. This new software has increased functionality to assist children when composing written texts.

These graphic organisers, such as Kidspiration and Inspiration, provide children with the structure they require to write and vocabulary assistance to improve the quality of their written work. Children can incorporate talking text and animations into their assignments using programs such as Clicker and PowerPoint, to reduce the amount of written language required.

The computer allows a child to compose their writing in a file that can be revisited and edited at a later date. They do not have to remember what they are trying to write and can simply type key phrases first and then go back and expand the sentences.

Word processing software reduces much of the stress associated with spelling, punctuation and grammar experienced by a child with learning difficulties when they are writing.

Spelling is not a priority in the first draft and can be corrected using the spell check functions on the computer. Grammar can also be corrected during the editing process. Children can choose to have spelling and grammar errors highlighted during the drafting process, or turn this function (and distraction) off until it is time to proof read their work.

Children are supported and encouraged to take risks when writing on the computer, because nothing is permanent and can be edited and improved on the screen before committing it to paper.

The computer creates a level playing field for a child with fine motor difficulties – no-one needs to know their handwriting is untidy and messy, they can't draw, have organisational difficulties or trouble with spelling and grammar.

The computer helps them produce written work of the highest quality, organised in a logical manner, spelt correctly, formatted to display their computer skills with pictures scanned or selected from clip art. Children can be proud to hand in their assignment, will not be penalised for poor organisation or presentation and will be encouraged, by their success, to keep trying.

The computer is a valuable tool for a child with learning difficulties.

It creates an enjoyable environment for children to practise much needed skills in games' formats and assists in the production of written tasks and assignments.

Children with learning difficulties should be encouraged and supported when using computers to improve their educational outcomes. Learning will be both fun and less stressful for a child with learning difficulties when using a computer, a desirable outcome indeed!

## Tip for teachers

Computers used as rewards for children finishing their work early often disadvantage students who have difficulty learning – the very children, computers would help the most!

Teachers could vary the reward process to ensure that children who are struggling with writing do not miss out on valuable time on the computer.

Perhaps children could sometimes use a computer for a writing task, with children finding writing difficult given priority, while others write as usual.



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– contact your local branch

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– Head Office

**Head Office**  
12-14 Pindari Road  
Peakhurst NSW 2210  
Telephone: (02) 9534 1710  
Preschool: (02) 9533 3283  
Facsimile: (02) 9584 2054  
Email: [mail@learninglinks.org.au](mailto:mail@learninglinks.org.au)

**Northern Suburbs Branch**  
2 Alfred Road  
PO Box 634  
Brookvale NSW 2100  
Telephone: (02) 9907 4222  
Facsimile: (02) 9907 4244  
Email: [nsb@learninglinks.org.au](mailto:nsb@learninglinks.org.au)

**Western Suburbs Branch**  
Unit 7/9 William Street  
PO Box 1026  
Fairfield NSW 1860 (2165)  
Telephone: (02) 9754 2377  
Facsimile: (02) 9755 9422  
Email: [wsb@learninglinks.org.au](mailto:wsb@learninglinks.org.au)

**Southern Suburbs Branch**  
10 Railway Parade  
Penshurst NSW 2222  
Telephone: (02) 9580 4888  
Facsimile: (02) 9580 4788  
Email: [ssb@learninglinks.org.au](mailto:ssb@learninglinks.org.au)

**South West Sydney Branch**  
88 Shropshire Street  
PO Box 42  
Miller NSW 2168  
Telephone: (02) 8783 7111  
Facsimile: (02) 8783 7222  
Email: [sws@learninglinks.org.au](mailto:sws@learninglinks.org.au)

**Eastern Suburbs Branch**  
1/20 Silver Street  
Randwick NSW 2032  
Telephone: (02) 9398 5188  
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