

Factsheet 120

Dyscalculia

“For more than 30 years I believed that when it came to maths I was just plain stupid. Numbers never made any sense to me; they were just shapes floating in the air, unattached to real meanings. I knew that two plus two equals four because that’s what I was told, and I memorised my times tables as if they were nursery rhymes, chanting them rhythmically until they stuck.” Hilary Freeman

From The Times, June 10, 2006, Inside Story: Dyscalculia

Dyscalculia or developmental dyscalculia is a disability that is present from childhood and is generally not acquired later on. Difficulties lie in dealing with numbers and mathematics. Problems include number conceptualisation, understanding number relationships and outcomes of numerical or spatial operations.

The Dcsf (formerly the DfES) defines dyscalculia in terms of a condition that affects the ability to acquire arithmetical skills. Dyscalculic learners may have difficulty understanding simple number concepts, lack an intuitive grasp of numbers, and have problems learning number facts and procedures. Even if they produce a correct answer or use a correct method, they may do so mechanically and without confidence. (DfES, Guidance to support pupils with dyslexia and dyscalculia, 0512/2001)

Preliminary evidence suggests that there may be a specific dyscalculia genotype - that is, a genetic anomaly that may result in a specific deficit in the learning of numerical skills. Research at UCL suggests that dyscalculic children are troubled by even the simplest numerical tasks, e.g. selecting the larger of two numbers, counting the number of objects in a display and activating the meanings of numerals.

For some gifted children the complication of having an additional condition such as Dyscalculia can be confusing and difficult to deal with. This is equally true for parents who want to address both concerns, and for schools who may feel more confident in dealing with the Dyscalculia rather than the giftedness.

The Difficulties of Dyscalculia

Spatial and visualisation difficulties:

- Difficulties in understanding calendars and reading clocks and geometry
- Unable to keep track of time
- Poor at recalling schedules and sequences of past or future events
- Poor name/face retrieval

Difficulties in mathematics:

- Poor at grasping/remembers maths formulas/basic addition/subtraction/multiplication and division
- Forgetting where you are in a calculation
- Failing to carry a number through to the next part of the calculation
- Poor with financial planning or budgeting, money and credit
- Fear of money and cash transactions
- Difficulty in balancing a cheque book
- Short term, rather than long term financial thinking
- Difficulty in calculating change received from a purchase

Numerical difficulties:

- Making common mistakes of number additions, substitutions, transpositions, omissions and reversals
- Difficulty keeping score during games
- Difficulty remembering one’s own telephone number
- Difficulty in recognising phone numbers when said in a different way

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Resources

www.bdadyslexia.co.uk	British Dyslexia Association
www.dyscalculia.org	Maths Dyslexia that inverts numbers making it difficult to do basic maths functions. Tips for learning and memorising.
www.dyscalculiacentre.me.uk	Information & resources for parents and professional
http://www.dyscalculiacentre.me.uk/assessment.htm	Advice & guidance re: assessment
www.dyscalculiainfo.org	A sample from the book What is Dyscalculia?
www.shambles.net/pages/learning/sen/dyscalculia	A large amount of information on Dyscalculia and related issues
www.timesonline.co.uk	Inside Story: Dyscalculia by Hilary Freeman

Books

Dyscalculia Guidance: Helping Pupils with Specific Learning Difficulties in Maths

Brian Butterworth & Dorian Yeo

The Dyscalculia Toolkit: Supporting Learning Difficulties in Maths

Ronit Bird

Dealing with Dyscalculia: Sum Hope

Steve Chinn

Dyscalculia: Action Plans for Successful Learning in Mathematics

Glynis Hannell

It is worth remembering that conditions like Dyscalculia have characteristics and traits that resemble other disorders including high ability and giftedness. You may wish to look at the following book – **Misdiagnosis and Dual Diagnosis of Gifted Children and Adults** by James T Webb et al which you can obtain from your local bookstore and online at www.giftedbooks.com or Amazon.

NB - There are a variety of symptoms associated with Dyscalculia as well as other developmental disorders; many traits may overlap and/or mimic high ability and/or giftedness. If you suspect your child have symptoms of Dyscalculia or any other disorder you should seek immediate assistance and evaluation. The sooner you receive a definitive diagnosis the sooner your child can begin learning in ways that are most appropriate and beneficial for their needs.

Information in this factsheet is not intended as a substitute for professional medical advice or treatment.

Reference: Misdiagnosis & Dual Diagnosis of Gifted Children and Adults, James T Webb et al, 2005