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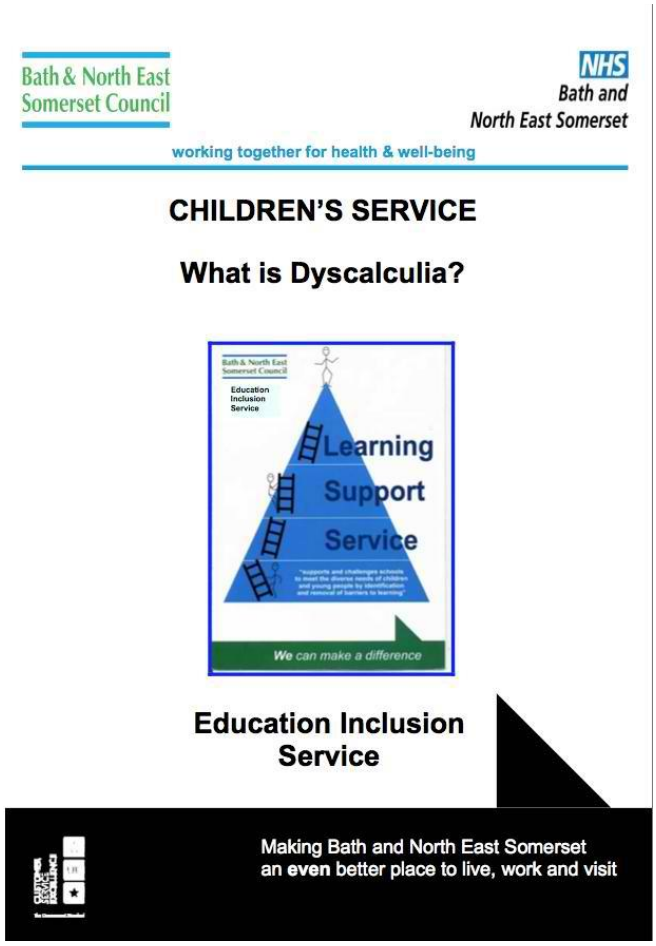
What is Dyscalculia

By Liz Dunoon Dyslexia Daily Editor

DYSCALCULIA – Explained simply

Every once in a while a really great brochure comes along that is easy to read and is really useful for parents and teachers. This is one of those. I was given a copy of this brochure by a colleague Ann Williams who is studying dyscalculia for her masters degree. Thanks must go to Bath and North East Somerset Council and Learning Support Services at Three Ways School. I wonder if they realise that people all around the world use their wonderful brochure.



"Dyscalculia is a condition that affects the ability to acquire math skills. Dyscalculic learners may have difficulty understanding simple number concepts, lack of 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 or without confidence."

Guidance to Support pupils with Dyslexia and Dyscalculia
Ref: DfES 0512/2001

What are the difficulties in maths?

- an inability to subitise (see without counting) even very small quantities
- an inability to estimate whether a numerical answer is reasonable
- weaknesses in both short-term and long-term memory
- an inability to count backwards reliably
- directional confusion
- trouble with sequencing
- a problem with money
- delay in learning to tell the time from a clock face
- an inability to manage time in their daily lives
- confusing signs; + x ÷ -
- reliance on 'counting on' strategies using fingers rather than efficient methods of calculation
- difficulty with x tables – able to learn them but forgets overnight
- inability to tell which of two numbers is larger
- finds it difficult to write numbers which have zeros in them e.g. 3008

Ronit Bird (2007): The Dyscalculia Toolkit.
Steve Chinn: 'Signs of dyscalculia' handout.
Patoss, Corsham. 26.06.2010.
Sarah Wedderburn: Unicornmaths website.

Identification and Assessment

Checklist for identifying Pupils with Specific Learning Difficulties in Maths
taken from: 'Dyscalculia and Specific difficulties in Mathematics – Guidance Document'.www.six.somerset.gov.uk/eis/view
Use this checklist to identify areas of difficulty and how it has been observed.

'Evidence by' key:
CO Classroom Observation
WS Work Sampling
IDA Individual Diagnostic Assessment

Impact on Life Skills	Evidence by
High level of anxiety around maths	
Lacks confidence in working with number	
Left/Right confusion	

A problem with all aspects of money	
A marked delay in learning to read a clock to tell the time	
An inability to manage time in their daily lives	
Slow processing speeds when engaged in math activities	
A tendency not to notice patterns in number	
Inability to master timetables and manage time in their daily lives	
Difficulty in remembering to work in the same unit of measure within a question	
Impact on Self Esteem	
Finds it difficult to ask questions even when he or she does not understand	
Slow in working in comparison with others	
Lacks confidence in their own answers	
May adopt avoidance/learned helplessness strategies	
Dislikes whole grupe interactive sessions	
Number	
Difficulties with mental calculation	
Uses fingers to count simple totals	
Inability to subitise (see without counting) even very small quantities	
Inability to estimate whether a numberical answer is reasonable	

Needs to continue to use concrete materials as is unable to work in the abstract	
Finds it difficult to count on	
Difficulty copying numbers accurately (reverses or invert digits)	
Difficulty with place value (misreads numbers 36/63)	
Inability to count backwards reliably	
Language of Maths	
Finds it difficult to explain mathematical processes	
Has problems choosing the right strategy to unpick a work problem	
Has sound technical reading skills but failes to understand the mathematical language	
Difficult to generalise learning from one situation to another	
Makes mistakes interpreting a word problem	
Confuses mathematical terms e.g. total, sum, equals	
Memory Difficulties	
Finds it difficult to learn and retain basic number facts – including times tables	
Finds it difficult to learn and retain what basic math symbols mean, including Maths rules, formulae and abbreviations	
Loses track of the 'sum' when completing a longer word problem	
Forgets previously mastered procedures	
Difficulties with Sequencing	

Has difficulty sequencing the order and the value of numbers	
Loses place/track when counting	
Difficulty reciting the times tables	
Difficulties with position, spatial organisation and visujal perception	
Confuses numbers and uses them interchangeably e.g. 12 and 21	
Confuses basic symbols e.g. + and x	
Poor setting out of work and calculations on the page often resulting in errors	
Does not see the difference between 6-4 and 4-6	
Takes the smaller number form the larger regardless of position	
Finds estimating and rounding numbers difficult	
Finds telling the time on an analogue clock difficult and may have poor understanding relating to the passage of time	
Is easily distracted/overloaded by worksheets full of maths	
Copies inaccurately	
Confuses the axes on graphs and co-ordinates	