Meet Daniel

Specific Learning Differences with Numeracy - Dyscalculia

Facts

Dyscalculia is a specific learning difference which affects the ability to acquire arithmetical skills. In a similar way to dyslexia, it is likely to be present at birth and to be life-long in its effects. It is characterised by learners having difficulty understanding simple number concepts, lacking an intuitive grasp of numbers and having problems learning number facts and procedures. Even when learners produce a correct answer or use a correct method, they may do so mechanically and without confidence. These effects can be reduced by implementing appropriate interventions, including the use of information technology and supportive counselling.

He is able to calculate something one day but then forgets how to do it the next day

Although dyscalculia often causes significant difficulties in the classroom – it does not hinder the development of Other intellectual talents. There is less awareness of dyscalculia, compared to dyslexia so there are fewer famous people recognised with this learning difference. Although it has been suggested by some researchers that the incidence of maths difficulties is actually higher than literacy.
What to look for

Children and young people with dyscalculia may:

- Learn the sequence of counting words, but may have difficulty navigating back and forth, especially in twos and threes.
- Find learning and recalling number facts difficult. They often lack confidence even when they produce the correct answer. They also fail to use rules and procedures to build on known facts. For example, they may know that 5+3=8, but not realise that, therefore, 3+5=8 or that 5+4=9.
- Find it difficult to grasp that the words ten, hundred and thousand have the same relationship to each other as the numerals 10, 100 and 1000.
- Often have difficulty with operations such as handling money or telling the time. They may also have problems with concepts such as speed (miles per hour) or temperature.
- Have difficulty understanding spatial orientation (including left and right) causing difficulties in following directions or with map reading.
- Be particularly vulnerable where teachers follow an interactive, whole-class method of teaching as recommended by the National Numeracy Strategy. Asking dyscalculic children to answer apparently simple maths questions in public will inevitably lead to embarrassment and frustration.
- Can confuse number order e.g. 56 for 65.

What you can do to help

Capitalise on the child or young person’s strength and minimise the amount of time spent on over-teaching arithmetic facts. Teachers can help by:

- Using concrete materials to support linking mathematical symbols to quantity.
- Starting at a level that the learner is comfortable, so that they experience some success, and slowly move to more challenging areas.
- Providing varying, multi-sensory opportunities to practice and consolidate new skills.
- Reducing the need for memorisation, especially at the start of learning new concepts.
- Asking a lot of questions to get the learner engaged and considering their own thinking skills.
- Breaking down complex sets of instructions into smaller and simpler parts.
- Allowing more time to complete an activity.
- Providing a maths partner or buddy.
- Providing alternative ways of recording, such as mind mapping.
- Develop ICT skills.

Where to find help

The School ALNCo
ALN Advisory or School Improvement Service
Educational Psychology Service

Useful websites
The British Dyslexia Association
www.bda.org.uk
Dyslexia Action
www.dyslexiaaction.org.uk
Box of Ideas
www.boxofideas.org

Useful books
Mathematics for Dyslexics, including Dyscalculia - Chinn & Ashcroft, published by Wiley
The Trouble with Maths - Steve Chinn, published by Routledge

Useful Suppliers or Specialist Resources
LDA Living and Learning, Cambridge
Tel: 01223 357744
Ann Arbor Publications, Northumberland
Tel: 01668 214460
Learning Materials Ltd, Wolverhampton
Tel: 01902 454026
SEN Marking, Wakefield
Tel: 01924 871697