



Dyscalculia

STEPS TO BE ABLE TO UNDERSTAND, & ACHIEVE
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Aims

- Dyscalculia – what is it?
- Understand what the impact is on the learner
- Limitations on numeracy and how to overcome
- Resource needed to help to achieve
- How this can be achieved and evaluated
- Conclusion

Dyscalculia – What is it?



- A difficulty in learning or comprehending with arithmetic
- Unable to understand simple concepts
- Problems in learning number facts and procedures



Dyscalculia – What is it What causes it

- Approx. 6% of the population has it
- Girls and boys affected equally
- Children with dyslexia often have trouble with maths
- Genetics (Shalev et al, 2001)
- Brain Differences (Castelli et al, 2006)
- Environment (Murphy et al, 2006)
- Working Memory

Maths Anxiety & Causes

- ‘The panic , helplessness, paralysis and mental disorganisation that arises among people when they are required to solve a mathematical problem’ Tobia and Weissbrod (1980).
- Natural response ,Stems from fight or flight response to stressful situations
- Attitude of parent, teacher
- Stressful or embarrassing incident



How to Identify and overcome maths anxiety

Symptoms of anxiety

- Butterflies in stomach
- Hands maybe sweaty
- Headaches
- Rapid breathing
- Increased heartrate

Solution

- Think about classroom environment
- Encouragement
- Avoid timed activities
- Focus on strategies

Resources & teaching

Multi-sensory teaching

30% of
what we
see

20% of
what we
hear

10% of
what we
read

50% of what we
see and hear

70-100% of what
we hear, see,
say and do

Dale, Edgar.(1969)

Numicon Shapes and how they help with maths

- Numicon is a teaching resource designed to help children visualise numbers.
- Children can see how we can add, subtract, multiply and divide numbers and the relationships between these.
- The different coloured Numicon shapes represent different numbers.
- Numicon is multi-sensory.

Littleton (2015)





Cuisenaire Rods ***the benefit of using them***

- System of coloured rods that are different lengths
- Can be used to explore the numbers 1-10
- Can help to develop mathematical reasoning



Conclusion

- Being dyscalculic doesn't mean its bleak for the learner
- Early diagnosis is important and beneficial
- Support network should be in school as well as home
- Understanding of the condition will aid self confidence and self esteem for the learner.

It is no longer the 'norm' as it was 30 years ago, to label a dyscalculic child as 'stupid'...now we have more awareness.

Hornigold (2015)

Referencing

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