# Dyslexia and Co-occurring Specific Learning Difficulties Pamela Deponio, University of Edinburgh



# Key message

We are aware that children with the specific learning difficulty of dyslexia are 'print impaired'. However, the term 'specific learning difficulty' is an umbrella term that includes other specific difficulties. These difficulties overlap or are said to 'co-occur'. Therefore we need to be aware that children with these other specific difficulties may also be 'print impaired'.

Dyslexia

Dyspraxia

Specific Learning Difficulties

Attention Deficit Hyperactivity Disorder (ADHD)

Specific Language Impairment (SLI)

<b>Specific Difficulty</b>	<b>Key Indicator</b>
Dyslexia	Literacy skills
Dyspraxia	Movement & planning

**ADHD** 

SLI

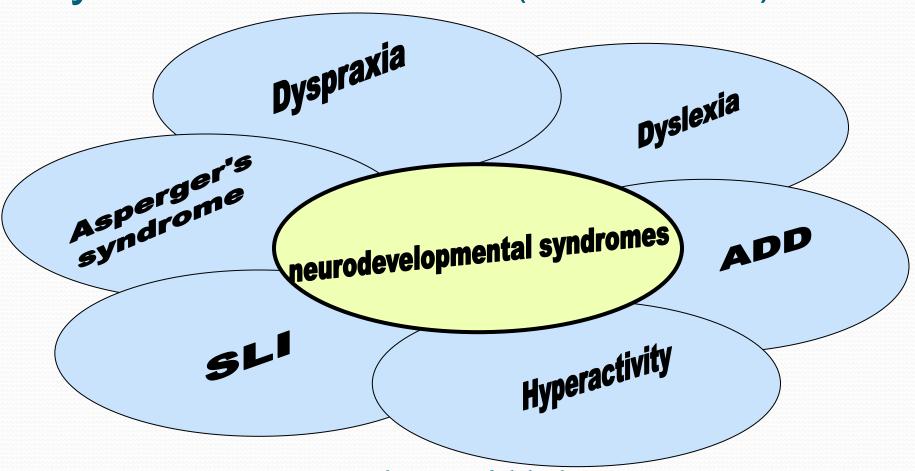
Attention & hyperactivity

Expressive & receptive

(comprehension)

language

Specific Neurodevelopmental Syndromes (Keen 2001)



### Dyslexia / Dyspraxia

Core dyslexia

### Difficulties with:

decoding

spelling

#### Commonalities

**Problems with:** 

processing information short term memory laterality following instructions attention sense of direction sequencing copying from board concept of time

Core dyspraxia

Poor:

muscle tone

body awareness

sensory integration

motor planning

genetic

4:1

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'There may be a continuum of severity in terms of the number of diagnosis, with children identified with only one developmental disorder displaying better overall functioning than children diagnosed with two or more developmental disorders'

(Kaplan et al 2006)

### Dyslexia /ADHD

Core

dyslexia

Difficulties with:

decoding

spelling

Commonalities

gifted / creative

inconsistency

organisation

memory

genetic

4:1

Core ADHD

Difficulties with:

attention

hyperactivity

impulsive behaviour

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## Dyslexia / SLI

Core

Dyslexia

Difficulties with:

decoding

spelling

Commonalities

short term memory

following instructions

planning & organising

phonological awareness

Core SLI

Difficulties with:

expressive

language

receptive
language
(comprehension)

#### Commonalities

Strengths & abilities

#### Difficulty with:

- Short term /working memory
- Inconsistency in performance
- Following instructions
- Planning, organising & sequencing
- Concept of time

# Atypical brain development (Kaplan et al 2001)

sensory integration

planning & sequencing

decoding

spelling

attention

hyperactivity

organisation

impulse control

muscle tone memory

comprehension

motor planning

phonological awareness

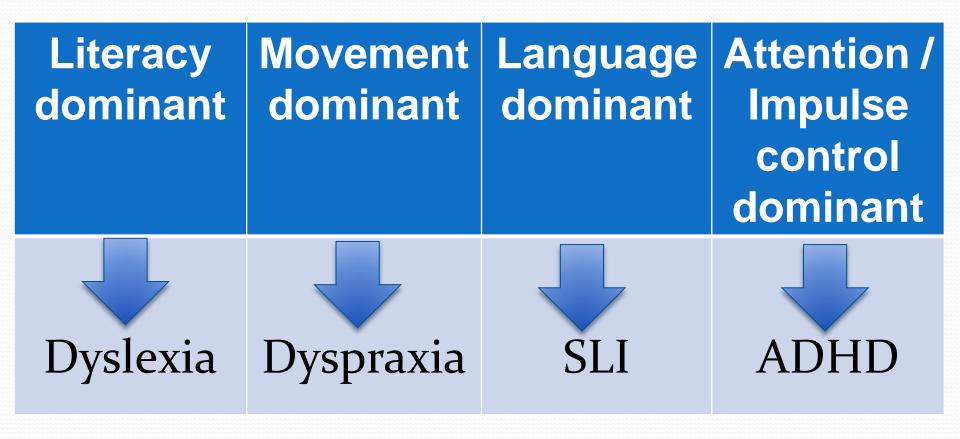
concept of time

language

inconsistency

Each child has his/her own individual profile copyright University of Edinburgh

# Terminology



### Issues of incomplete assessment

Educational psychologist	Dyslexia
PE teacher	Dyspraxia
Speech and Language therapist	SLI
Psychiatrist	ADHD

# Key message

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### Situation in Scotland

#### **Equality Act:**

The Equality Act 2010 is the law which bans unfair treatment and helps achieve equal opportunities in the workplace and in wider society.

All schools in England, Wales and Scotland, irrespective of how they are funded or managed, have obligations under the Equality Act 2010.

#### **Accessibility Strategy**

Education (Disability Strategies and Pupils' Educational Records) (Scotland) Act 2002

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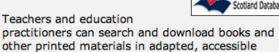
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- Bank of materials adapted by teachers to be shared with all teachers in Scotland

Visual Impairment

Dyslexia

Physical Disability

General Learning Difficulty

### Key messages

#### Co-occurrence

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#### **Books for All**

A wider range of children may be considered as 'print disabled'.

# Dyslexia / Dyspraxia references

- Dewey et al (2000) children with reading disability or dyslexia have a high rate of motor difficulties
- Kaplan et al (1998) reading disorder (dyslexia)
   & motor difficulties, comorbidity > 55%
- Wolff et al (1990) 50% of dyslexics displayed bilateral integration problems
- Fawcett & Nicolson (1995) cerebellum impairment

## Dyslexia / ADHD references

- Wilcutt et al (2007) 40% individuals who met criteria for RD or ADHD also met criteria for the other
- Banaschewski et al (2007) ADHD highly morbid condition
- Adams & Snowling (2001) co-occurrence over 50%
- Willcutt & Pennington, (2000) ... RD and ADHD
   co-occur significantly more frequently
   than would be expected based on chance...
- Hynd (2002) 50% children with dyslexia will also have ADHD.

### Dyslexia / SLI Co-occurrence references

- McArthur (2000) overlap between dyslexia & SLI
- Tallal et al (1997): developmental continuum between early language disorders & phonologically based reading disorders
- Snowling (2001) children with significant reading impairments at 8 showed a pattern of speech & language delay



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