Dyslexia and Co-occurring Specific Learning Difficulties
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Let’s Read! Reading and Print Disabilities in Young People

Tallinn, Estonia. August 7 – 9, 2012
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)
<table>
<thead>
<tr>
<th>Specific Difficulty</th>
<th>Key Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyslexia</td>
<td>Literacy skills</td>
</tr>
<tr>
<td>Dyspraxia</td>
<td>Movement &amp; planning</td>
</tr>
<tr>
<td>ADHD</td>
<td>Attention &amp; hyperactivity</td>
</tr>
<tr>
<td>SLI</td>
<td>Expressive &amp; receptive language</td>
</tr>
<tr>
<td></td>
<td>(comprehension)</td>
</tr>
</tbody>
</table>
Specific Neurodevelopmental Syndromes (Keen 2001)
Dyslexia / Dyspraxia

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

Core dyslexia

- decoding
- spelling

Core dyspraxia

- muscle tone
- body awareness
- sensory integration
- motor planning

Commonalities

- genetic
  - 4:1

Difficulties with:

- Poor:
  - muscle tone
  - body awareness
  - sensory integration
  - motor planning
‘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

Difficulties with:
- decoding
- spelling

Commonalities:
- gifted / creative
- inconsistency
- organisation
- memory
- genetic
- 4:1

Core dyslexia

Core ADHD

Difficulties with:
- attention
- hyperactivity
- impulsive behaviour

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Dyslexia / SLI

Core Dyslexia

Difficulties with:
- decoding
- spelling

Core SLI

Difficulties with:
- expressive language
- receptive language (comprehension)

Commonalities
- short term memory
- following instructions
- planning & organising
- phonological awareness

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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)

Each child has his/her own individual profile
## Terminology

<table>
<thead>
<tr>
<th>Literacy dominant</th>
<th>Movement dominant</th>
<th>Language dominant</th>
<th>Attention / Impulse control dominant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dyslexia</td>
<td>Dyspraxia</td>
<td>SLI</td>
<td>ADHD</td>
</tr>
</tbody>
</table>
## Issues of incomplete assessment

<table>
<thead>
<tr>
<th>Professional</th>
<th>Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational psychologist</td>
<td>Dyslexia</td>
</tr>
<tr>
<td>PE teacher</td>
<td>Dyspraxia</td>
</tr>
<tr>
<td>Speech and Language therapist</td>
<td>SLI</td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>ADHD</td>
</tr>
</tbody>
</table>
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’.
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
Books for All Project in Scotland

Accessible Curriculum Materials for Students with ASN

Learning materials in accessible, alternative formats.
For students who have difficulty reading ordinary printed books.

Books for All: A CALL Scotland website.

Books for All Database

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Teachers and education practitioners can search and download books and other printed materials in adapted, accessible formats.

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Books for All

• Database of accessible copies of books shared under terms of CLA Print Disability Licence

• Work with publishers to be given pdfs to adapt texts

• Bank of materials adapted by teachers to be shared with all teachers in Scotland
Key messages

Co-occurrence
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’.

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