

Wiltshire Council
Where everybody matters

**Institute of Optometry: 18th October
2019**

***"Welcome to the
conference"***

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**Institute of Optometry: 18th October
2019**

***"Reading – from the simple
to the difficult..."***

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•Ian Abbott:

Lead Professional – Cognition and Learning
Specialist SEND Service, Wiltshire Council

About me: Wiltshire Council
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- The simple view of reading: types of reader.
- Reading difficulty: dyslexia.
- How we identify dyslexia.
- Reading as a process – how do we read?

Outline: Wiltshire Council
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Simple view of reading: Wiltshire Council
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Dyslexia is a learning difference characterised by widely-acknowledged strengths in: holistic (big picture) thinking; spatial skills; 3-D visualisation; lateral thinking; and problem solving skills.

Dyslexia is evident when accurate and fluent reading and/or spelling develops very incompletely or with great difficulty.

Difficulties persist at the 'word level' (i.e. the reading and spelling of individual words) despite appropriate educational opportunities and well-founded intervention.




SpLD - Dyslexia: Wiltshire Council
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Dyslexia can occur across pupils of all abilities.

Characteristic features of dyslexia are difficulties in phonological awareness, verbal memory and verbal processing speed.

Co-occurring difficulties may be seen in aspects of language, motor coordination, mental calculation, concentration and personal organisation, but these are not by themselves markers of dyslexia.




SpLD - Dyslexia: 

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Acknowledged strengths +
Difficulty with the three main 'markers':

- 1) Phonological skills
- 2) Verbal memory
- 3) Verbal processing speed

AND co-occurring difficulties.




Dyslexia - summary: 

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Phonological Awareness

- Phoneme deletion
- Blending words
- Reading non-words

Phonological awareness: 

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Phonological Awareness

- Phoneme deletion
- Blending words
- Reading non-words

Removing sounds from a word

Phonological awareness: 

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Phonological Awareness

- Phoneme deletion
- Blending words
- Reading non-words

Putting sounds together to make words

Phonological awareness: 

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Phonological Awareness

- Phoneme deletion
- Blending words
- Reading non-words

Non-words are novel, phonetically regular words that can only be read by 'sounding out' – 'Alien words'

Phonological awareness: 

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bos	op	ig	ct	dar
slimp	grash	bliu	petrang	lenk
preu	strilt	tef	freggy	hij
quarn	scad	pool	sosl	sode
jeal	hife	hount	durl	bune
jow	liel	ipsidom	salder	toag
cim	cardonite	sprinderpilling	kaphridge	
gcp	phoncher	concenated		
dissantomified	apprixengilate			

Phonological awareness:  Wiltshire Council
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Verbal memory

- Repeating lists of digits (digit span)
- Repeating non-words

Verbal memory:  Wiltshire Council
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Verbal memory

- Repeating lists of digits (digit span)
- Repeating non-words

Verbal memory:  Wiltshire Council
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Item	First trial	√ or X	Second trial	√ or X	Total
A	43		18		
B	792		847		
C	5941		7253		
D	93872		75396		
E	152649		216748		
F	3745261		4925316		
G	82973548		69174253		
H	246837185		371625848		
				Forwards score:	

Digit Span

Verbal memory:  Wiltshire Council
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Information processing account:



The limit of working memory
"The Magical Number: 7±2"
(Miller, 1956)

Verbal memory:  Wiltshire Council
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Verbal memory

- Repeating lists of digits (digit span)
- Repeating non-words

Verbal memory:  Wiltshire Council
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Verbal processing speed

- RAN tasks (Rapid Automatised Naming)
- Rapid retrieval of verbal information such as letters and digits (Denckla and Rudel, 1974)

Verbal processing: 

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d s a p o s p d a o
s a o d p a d o p s
d a p o a s p s o d
a p s d o d s a p o
p s o p d o a d s a

Verbal processing: 

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		<5'	>5'		<5'	>5''
1	George Benson			10	Marvin Gaye	
2	Chuck Berry			11	Ray Charles	
3	Bad Manners			12	Marc Bolan	
4	John Lennon			13	Jethro Tul	
5	Led Zeppelin			14	Phil Collins	
6	Neil Diamond			15	Delta Five	
7	Jimmy Red			16	Bob Dylan	
8	Johnny Cash			17	Thin Lizzie	
9	Bob Marley			18	Four Seasons	

Spoonerisms: 

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		<5'	>5'		<5'	>5''
1	George Benson	Borge Jenson		10	Marvin Gaye	Garvin Maye
2	Chuck Berry	Buck Cherry		11	Ray Charles	Chay Racles
3	Bad Manners	Mad Banners		12	Marc Bolan	Barc Molan
4	John Lennon	Lon Jennon		13	Jethro Tul	Tethro Jul
5	Led Zeppelin	Zed Leppain		14	Phil Collins	Kill Collins
6	Neil Diamond	Deal Diamond		15	Delta Five	Felta Dive
7	Jimmy Red	Rimmy Jero		16	Bob Dylan	Doob Sytan
8	Johnny Cash	Conny Jash		17	Thin Lizzie	Lin Thizzie
9	Bob Marley	Wob Barley		18	Four Seasons	Sore Feasons

Spoonerisms: 

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Motor-co-ordination: e.g. difficulty pronouncing long words, clumsiness, gross or fine motor skills (including eye 'tracking').

Concentration: e.g. inability to focus, poor attention span, easily distracted.

Co-occurring difficulties: 

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- Meares-Irlen Syndrome
- (Olive Meares – Helen Irlen)





•Pattern-induced visual stress

•Scotopic Sensitivity



Visual stress: common terms 

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From the Rose Report (2009):

Visual stress is a term used to describe the experience of eye strain, difficulty in focusing, headaches, and illusions of colour or movement in written text...

Visual stress:



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Visual Stress is a neurological condition, triggered by lights, patterns, contrast and/or colour. This sensitivity to visual stimuli causes the visual cortex to become hyper-activated, leading to physical discomfort and perceptual distortions that interfere with reading, attention, coordination and general health and behaviour. Physical symptoms of Visual Stress include headaches, eye pain or strain, fatigue, and/or nausea. Perceptual symptoms of Visual Stress include illusions of light and colour, instability of text, lines or patterns, and depth perception difficulties.



Visual stress:



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Visual stress:



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Dyslexia is a learning difference characterised by weakly-acknowledged strengths in: tasks, big picture, thinking, spatial skills, 3-D visualisation, lateral thinking, and problem solving skills.



Visual stress:



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From "Intervention for Dyslexia", executive summary, Singleton, 2009

The theory of visual stress that has the most empirical support is that the condition results from a general over-excitation of the visual cortex due to hyper-sensitivity to contrast or pattern glare...

Visual stress:



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From the Rose Report (2009):

Visual stress has sometimes been referred to as 'visual dyslexia', but there is no evidence supporting a causal link between visual stress and dyslexia."

Visual stress:



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Are you ready to put this to the test?

Dual route reading model:  Wiltshire Council
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**Pneumonoultramicroscopicsilico
volcanoconiosis**

19 syllables – I think!

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Supercalifragilisticexpialidocious

14 syllables – God bless you Mary Poppins!

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Language, eyes and ears:  Wiltshire Council
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Thank you for listening:  Wiltshire Council
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