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Learning Difficulties Q & A #5

The Role of Vision in Reading

Historically, it was widely believed that reading difficulties were the direct result of defects in the visual system. We now know that these theories are largely untrue. In a recent article featured in Eye2Eye, a publication of the Royal Australian and New Zealand College of Ophthalmologists, the part that vision plays in learning difficulties was reviewed with a number of controversial therapies specifically discussed. According to the article (which will be reprinted in an upcoming edition of DSF's Bulletin magazine), treatments such as Irlen lenses and the Lawson anti-suppression device are not evidence-based, and therefore, not recommended. It goes on to state that "Eye professionals should not be considered the expert in reading education".

Research has shown the following in relation to the role of vision in reading (American Academy of Paediatrics, 2009):

- Difficulties in scanning across the page are a symptom, not a cause, of reading disorders.
- Word reversals and skipping words (reading behaviours observed in some individuals with dyslexia) have been shown to result from language-based deficiencies rather than visual or perceptual disorders.
- Children with dyslexia show eye movements and fixations similar to typically developing readers at a younger age. This is due to a lack of reading practice and not a visual deficit. Therefore, the eye movement patterns seen in readers with dyslexia seem to be the result, not the cause, of their reading disability.
- Poor decoding and difficulties with comprehension (rather than a problem with the systems controlling vision and eye movements) contribute to slow reading, increased duration of fixations, and increased backward eye-movements.
- Children with dyslexia often lose their place while reading because they struggle to decode a letter, series of letters or word and/or because of poor comprehension, not because of a "tracking abnormality."
- Numerous studies have shown that children with dyslexia, or related learning disabilities, have the same visual function and ocular health as children without such conditions.

SPELDNSW
2/ 172 Majors Bay Rd Concord NSW 2137
T. **(02) 9739 6277** F. **(02) 8765 1487**
E. enquiries@speldnsw.org.au W. www.speldnsw.org.au

PATRON: Mrs Linda Hurley
ABN: 27 508 096 871 CFN: 11013

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- Reading glasses to treat convergence (eye-teaming) insufficiency and poor accommodation (focusing), can make reading more comfortable and may enable children to read for longer periods of time but do not directly improve decoding or comprehension.

Periodic vision screenings are important for all children in order to identify children who have reduced visual acuity or other visual disorders. If no ocular or visual disorder is suspected, the child needs no further vision assessment or management (at least in the short-term). Scientific evidence of effectiveness should be the basis for treatment recommendations. Because visual problems do not underlie dyslexia, approaches designed to improve visual function by training are misdirected. Therefore behavioural vision therapy, eye muscle exercises, or coloured filters and lenses are not recommended in the treatment of reading difficulties.

Instead, **Direct Instruction and Structured Synthetic Phonics programs are strongly recommended for students with literacy-learning difficulties and disabilities. These programs target the underlying skills necessary for strong literacy development with an emphasis on phonological awareness, phonemic awareness and the systematic teaching of letter-sound relationships**. A sample of the programs listed under these headings includes: Sounds-Write; MultiLit; MiniLit; Reading and Spelling Mastery.

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