

# Dyslexia – An Overview

## Dyslexia – What is it?

This is the question asked most frequently both by the lay person and the professional, and is usually followed by, 'Can you give me a simple definition?'. Many books and articles have been written and much academic and professional debate has been devoted to this topic. Scores of different definitions have ensued. ...There is still no universally accepted definition but dyslexia is officially recognised and accepted by governments and legislatures in many countries worldwide.

World Federation of Neurology (1968) – This was one of the first working definitions and it is still regarded as a benchmark by many workers in the field. It defined dyslexia as:

a disorder in children who, despite conventional classroom experience, fail to attain the language skills of reading, writing and spelling commensurate with their intellectual abilities.

Source: Waites L. (1968) Dyslexia International World Federation of Neurology. 'Report of Research Group on Developmental Dyslexia and World Illiteracy'. Bulletin of the Orton Society, 18: 21-2.

The quest for a valid definition of dyslexia continues one hundred years after its first 'discovery'. Reid Lyon (1995) described how the Orton Dyslexia Society Research Committee collaborated with various National Research Organizations, as well as scientists and clinicians in the USA, and in 1994 came up with a working definition:

Dyslexia is one of several distinct learning disabilities. It is a specific language-based disorder of constitutional origin characterized by difficulties in single word decoding, usually reflecting insufficient phonological processing. These difficulties in single word decoding are often unexpected in relation to age and other cognitive and academic abilities; they are not the result of generalized developmental disability or sensory impairment. Dyslexia is manifest by variable difficulty with different forms of language, often including, in addition to problems with reading, a conspicuous problem with acquiring proficiency in writing and spelling (The Orton Dyslexia Society Research Committee April, 1994).

Source: Reid Lyon G. (1995) 'Toward a definition of dyslexia'. *Annals of Dyslexia*, 45:9

## The symptoms

Dyslexia is perhaps best characterized as a syndrome with a wide range of symptoms. It is a much broader issue than simply a 'specific reading retardation'. Often pupils do not have the same cluster of symptoms and this can make diagnosis difficult. Naidoo's (1979)

findings showed that 'we did not find a single, common pattern which typifies all these children'. There is unevenness and variability in their performance. They do not constantly make the same mistakes when reading or writing or spelling. They have good and bad days. Their errors are often compounded by tiredness, stress, or illness.

### **Characteristics of dyslexia**

Some educationalists take issue with the use of medical terminology to describe the symptoms of dyslexia, but the following terms are useful characteristics of dyslexia:

- congenital — people are born with it
- genetic — inherited and runs in families, more males than females
- constitutional — there is a neurological basis
- problems with phonological awareness — difficulties with letter sounds when reading and spelling and writing
- problems with language — such as verbal naming or word retrieval or pronunciation
- problems with short term memory — which particularly affect auditory sequential memory (such as for the repetition of digits) or visual sequential memory (such as used in coding skills).

It would be unusual for an individual to have all these difficulties. Usually he will have a cluster of symptoms. The prognosis depends on individual strengths and weaknesses, on the individual learning strategies, on the degree of the dyslexia, on when the diagnosis was made and on appropriate tuition.

### **Benefits of early diagnosis for remediation**

There is plenty of research evidence which shows that the earlier the problem is detected the better the prognosis. Bradley (1989) demonstrated that 'the younger the child, the more effective the remedial intervention'. Garner (1994) reinforced this and said 'good nursery education can help the child with certain underlying weaknesses'. Much work is needed to improve 'the spoken language skills and the child's awareness of it' (Snowling, 1987) because of its importance to the child's later acquisition of literacy. According to Brady et al (1994), there are 'numerous prediction studies [which] demonstrate that the greater a child's awareness of the phonological structure of words prior to reading instruction, the greater will be that child's success in learning to read.'

### **Multi-disciplinary approach**

'The nature of the deficit changes with development' (Snowling, 1987). This implies that changes can be brought about by the appropriate intervention of all those associated with

bringing up the child (parents, play-group leader, teachers, speech therapists). Problems that may serve to identify dyslexia are often observed before the appearance of reading difficulties. Appropriate reaction to such pointers could save such children having to endure the 'experience of academic failure and the negative consequences of failure' (Catts, 1989). Yet some authorities still believe that it is not appropriate or sensible to diagnose dyslexia formally by assessment much before the child is six or seven years old (Gardner, 1994). Hornsby (1993) said 'one is not attempting to diagnose dyslexia in pre-school years, merely to indicate those that could be "at risk" and to take suitable intervention measures'. This seems to encapsulate the views of many practitioners in the field.

### **Advantages of early intervention**

Miles and Miles (1984) were commissioned by the Department of Education and Science (DES) to examine the effect of early intervention. They found that 'it is particularly advantageous if special teaching can start no later than age seven'. They concluded that 'if dyslexic children are caught early, less time is needed for catching up, while in many cases they can be helped before frustration sets in'. The research of Badian (1988) replicated these findings. She reported that 'when diagnosis of dyslexia was made in the first two grades of school, over 80 per cent of the students could be brought up to their normal classroom work'. Chasty (1996) stated that 'at the age of seven, a child with mild to moderate dyslexia/specific learning difficulties (i.e. 80 per cent of all children with such difficulties) can be helped within the classroom situation by the class teacher or class assistant allocating one hour — in short and frequent sessions throughout the week. However, if the child's difficulties are not recognised and the necessary support not given, then within a few years these difficulties will have accumulated to a level requiring eight hours a week, in teaching and support both within the classroom and outside'. Dyslexia cannot be prevented or cured. Early identification can lessen the long term effect of the symptoms when it is accompanied by appropriate remediation, sympathetic understanding and an awareness that there may be weaknesses and lateness in acquiring fundamental life skills. Secondary emotional and behavioural problems can be prevented or avoided if appropriate intervention is made in early childhood.

### **Identification often brings relief**

Miles (1993) pointed out that dyslexia need not be a calamity, but 'in the first place, if dyslexic children are not told the nature of their difficulties they readily come to believe that they are "thick" or "stupid" and it is clearly very frustrating to find that other children can easily cope with tasks which they themselves find difficult'. Although many authorities hold the view that children should not be given labels, those who have experience of working with dyslexics say that the benefits of being told they have a

recognised condition far outweigh the disadvantages of being labelled 'dyslexic'. Parents often say that 'not knowing is far worse than knowing'

Early diagnosis should help to take away the burden of blame from the child, his parents and his teachers. Those people connected with the child (parents, baby-sitter, child-minder, grandparents, Brownie Leader, play-group supervisors) should be made aware of the child's difficulties. Carlisle (1995) stated that 'any adults spending much time with the child can be encouraged to follow advice on helpful activities but alarm or anxiety must not be caused'. It is important that parents and others associated with the child are counselled and that they are given encouragement and constructive practical advice on matters such as play activities, games and management. All involved must be mindful of the old adage that 'diagnosis without remediation is unethical'.

## **Early warning signs that may predict learning difficulties**

### ***Speech and language***

Most researchers agree that language development is the most significant feature that has to be examined in the identification of dyslexia. Snowling (1987) said that 'the predominant view to date is that dyslexia is associated with phonological difficulties originating within spoken language processes'. A child with language problems may experience some or all of the following difficulties:

- Word-naming problems.
- Word mispronunciation.
- Jumbling words.
- Poor use of syntax.
- Difficulties with rhyme and alliteration.
- Tendency to use circumlocutions.
- Hesitant speech.
- Needs frequent presentation of a word before being able to use it accurately and consistently.

### ***Sequencing***

Many children have initial difficulties with some of the tasks described below, but the dyslexic child's problems will be greater and more persistent. A dyslexic child will make mistakes frequently that other children make only occasionally.

### **Visual difficulties**

- The child may be poor at drawing — some are excellent and have a good use of colour.
- The child may find it difficult to track through a maze.
- The child may find it difficult to sort beads by shapes.
- The child may have difficulty learning to dress himself — what goes on first? Shirt or vest? He may also be very slow at dressing and changing his clothes, or put his clothes on inside out.
- The child may put shoes on the wrong foot.
- Some find it difficult to turn on and off taps because they cannot remember which way

the thread goes.

- Buttons can cause problems because of being unable to remember where to start.
- Some lack the manual dexterity to cope with finding the buttonhole and then putting the button through it.
- The child may have difficulty turning door handles, particularly door knobs.
- The child may find doing jigsaw puzzles or making models difficult.

### **Auditory sequential memory difficulties**

- The child may not be able to learn or repeat nursery rhymes or childish ditties.
- The child may not be able to repeat messages — when he takes a telephone call he may forget the name of the speaker, or when given the message 'Dad will be home late, he has missed the train and will be on the next one' he will perhaps only remember that 'Dad will be late'.
- The child may have difficulty in following a series of instructions — he goes upstairs to look for something and forgets what he has been sent to find. He may have difficulty remembering a series of instructions, for example, from the teacher on the playing field. This will often be exacerbated by directionality confusions. Catts (1989) confirmed that 'dyslexics have been shown to perform less well than normal individuals in the short term recall of lists of letters, words, digits and sentences'.
- The child may often find it hard to string a few sentences together to describe a recent event — 'What did you have for lunch today?' He may begin at the end of the story and seem to lose his way. He may also struggle to find the words to convey his meaning.
- The child may find clapping or beating time to music difficult. Wolff, Michel and Ovrut (1990) showed that dyslexic children have persistent problems in tapping rhythm, specifically when asked to tap the hands asynchronously.
- The child may have difficulty with remembering common sequences — the alphabet, days of the week, months of the year. He finds it difficult to tell whether it is morning or evening. Phrases like 'next week' 'in a month's time' may confuse him. He may neither be able to remember his own address nor often the date of his birthday nor his telephone number. Badian's (1995) research confirmed the importance of letter naming as a predictor and of the role of phonemic awareness in early reading acquisition.
- The child may find counting difficult — particularly counting backwards.
- The child may show signs of poor auditory discrimination. He may hear the sound but be unable to identify what he hears, just as the colour-blind person can see the colour but is unable to recognise the colours. Such a child will often be accused of not listening or being inattentive.

### ***Motor skills***

Motor skills are so called because the muscles that perform these skills work like a motor controlled by the brain.

#### **Fine motor skills**

Fine motor skills are those associated primarily with the fingers and hands.

Lenneberg (1967) pointed out that 'the appearance of increasingly complex speech and language behaviour paralleled milestones in motor development. A sense of rhythm is important to help improve motor co-ordination'. Some children have no difficulty acquiring

these skills while others do so late, or with difficulty. By the age of six the child should normally have acquired most of these skills. Rudel (1985) found that 'there is evidence of early difficulties in newly acquired [motor] skills, but these difficulties are largely outgrown by nine to ten years'.

- The child may have difficulty learning to use cutlery. Some are messy eaters who frequently spill and knock things over at the table.
- The child may find it difficult to use a pair of scissors – especially if he is left handed.
- The child may find it difficult to trace.
- The child may not be able to use a rubber effectively.
- The child may not hold his pencil awkwardly.
- The child may find it difficult to tie shoe laces.
- The child may find learning to do a tie extremely difficult.

### **Gross motor skills**

Gross motor skills are those associated with the arms and the legs.

- The child may find hopping difficult to do.
- Skipping is even more difficult for some because it involves balancing while moving.
- The child may have difficulties catching, throwing or kicking a ball because he finds it difficult to put his hands in the right place. Others find it difficult to anticipate the velocity of the ball.
- The child may be constantly bumping into people and objects. In games he often collides with others. He may bump into other children on the stairs at school because the child who is going up the stairs does not realise that another child is coming down the stairs on the left, at the same time.
- The child may have a tendency to knock things over or to drop things.
- Going up steps may prove difficult — some children have a tendency to do so one at a time. When coming down the stairs they tend to continue to jump off the final step.
- Learning to ride a bicycle can be a tortuous process.
- Setting the table may be difficult — knives and forks may be put on the wrong side.
- Learning to swim can be difficult for some children, especially the breast stroke because the arms and leg movements must be synchronized. Others find bilateral breathing required for the over arm can be difficult: when the right arm comes out of the water the head has to be moved to the left and vice versa.
- Playground games may be difficult, especially if they involve words such as left/right, up/down, backwards/forwards, in front/behind.
- Learning to dance may be difficult for some children, particularly if there is a sequence of steps to be remembered, as in country dancing.
- There is anecdotal evidence of a child slipping down inside his sleeping bag and being unable to find his way out because of directionality confusion.
- The child may experience difficulties with co-ordination in the gym when climbing the ropes, crawling through apparatus, standing on one leg or walking along a bench. The child who has very pronounced difficulties in this area can be assessed by an occupational therapist who will use tests and make a clinical observation. This may

result in a diagnosis of dyspraxia, which implies poor co-ordination and difficulty in the planning and carrying out of fine and gross motor skills.



This article is an excerpt from the book

**How to Detect and Manage Dyslexia**

By Philomena Ott

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This article offers a general overview of dyslexia. It is taken from the book written by Philomena Ott, who has taught people with dyslexia for over twenty-five years and is one of the most knowledgeable and highly regarded practitioners in the field. The book covers issues such as: early warning signs of dyslexia; how we can identify and overcome reading, writing and spelling difficulties; problems encountered by dyslexic mathematician and the strategies and techniques to help them; implications of dyslexia for the musician; guidelines on identifying dyslexia in an adult..etc.