What is Dyslexia?

Just the Facts: Dyslexia Basics

The International Dyslexia Association (IDA), 2012
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What is Dyslexia?

Dyslexia is a neuro biologically based learning difference that causes a person to have difficulties acquiring and using language. It is commonly referred to as a learning disability because the typical learning environment being so heavily based around reading and writing, people with dyslexia often have difficulties succeeding academically. Dyslexia occurs in people of all backgrounds. It is not related to a person's IQ or desire to learn. People with dyslexia are often capable, even gifted in areas such as art, computer science, design, drama, electronics, maths, mechanics, music, physics, sales and sports. Dyslexia runs in families and is a life-long condition. Anatomical and Brain Imagery studies indicate that the dyslexic brain is characterised by:

- Difficulty perceiving and identifying the separate speech sounds (phonemes) within words.
- Difficulty retaining how phonemes are represented in written form.

These core difficulties more immediately affect word pronunciation, word recognition, reading fluency, writing and spelling. Later, they can affect an individual's ability to understand and organise text; especially as the content, syntax and grammar of curriculum become increasingly sophisticated.

About 14% of the population has some of the symptoms of dyslexia including:

- Problems learning to speak
- Slow or inaccurate reading
- Poor writing
- Poor spelling
- Mixing up of similar words
- Problems organising written and/or spoken language
- Incorrectly doing mathematical operations
- Difficulty memorising mathematical facts
- Difficulties learning a foreign language
- Awkward and inconsistent handwriting

Definitions of Dyslexia

Dyslexia is a specific learning disability "difference" that is neurological in origin. It is characterised by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction. Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede the growth of vocabulary and background knowledge.

This definition was adopted & adapted by the
Australian Dyslexia Association from
the Research Committee of the
International Dyslexia Association, August 2009.

Dyslexia occurs across the range of intellectual abilities. It is best thought of as a continuum, not a distinct category, and there are no clear cut-off points.

Co-occurring difficulties may be seen in aspects of language, motor co-ordination, mental calculation, concentration and personal organisation, but these are not, by themselves, markers of dyslexia. A good indication of the severity and persistence of dyslexic difficulties can be gained by examining how the individual responds or has responded to well-founded intervention.

The above is an excerpt taken from the
British Dyslexia Association's definition of Dyslexia
which was based on the information contained in
Sir Jim Rose's Report to the Secretary of State, June 2009.

Dyslexia Subtypes

When there is a diagnosis (profile) of dyslexia, it is often classified into present subtypes. These subtypes are basically labels for the pattern of symptoms that emerged through testing. Understanding the nature (profile and subtypes) of your child's difficulty can help guide you to choosing the right program of instruction or remediation. Some of the common subtypes are:

Dysphonetic dyslexia (Also called dysphonesia and phonological dyslexia)
This form is characterized by difficulties with word attack skills, including phonetic segmentation and blending. It can be identified by poor nonword reading skills; for example, the inability to decipher invented words with no real meaning used to test phonetic skills. Spelling is inconsistent with bizarre letter combinations.

Dyseidetic dyslexia (Also called dyseidesia and surface dyslexia)
Children with the dyseidetic form of dyslexia have a good ability to sound out words,
but they read very laboriously and often read better silently. They can have difficulty learning to recognise whole words visually, and have problems deciphering words that do not follow regular phonetic rules. Spelling is highly phonetic, for example writing “peepl” for “people”

Naming-speed deficits (Also called semantic dyslexia, dysnomia, or anomia)
This subtype of dyslexia is diagnosed primarily from poor performance on tests of rapid automatic naming. Children with naming speed deficits have difficulty with word retrieval. They may hesitate in speech, or frequently substitute a mistaken word for what they mean, such as saying “tornado” when they mean “volcano.” They may also frequently use generic words (i.e., “thing,” or “place”) instead of specific nouns; or they may resort to descriptive phrases. (i.e., “the eating thing” rather than “spoon”).

Double-deficit
Double-deficit dyslexia is a label attached to children who have both the phonological and the naming-speed subtypes. These children are thought to have a particularly severe and persistent form of dyslexia.

Dysgraphia

Dysgraphia Involves difficulties with sensory-motor dyspraxia, or motor coordination problems. These cause difficulties with the manual aspects of handwriting, even for children who are trying to copy directly from examples of printed words. Often, these children experience the extreme frustration of knowing what words they want to write, while being unable to get their fingers to make the proper motions. It impairs letter formation, speed of writing and/or impaired spelling (without reading problems).

Types of Dysgraphia:

- Dyslexic Dysgraphia: written text is illegible; spelling is severely abnormal; normal
  drawing and copying of original text, normal finger tapping speed.
- Motor Dysgraphia: illegible written and copied text, normal spelling abilities,
  difficulties in drawing and abnormal finger tapping speed.
- Spatial Dysgraphia: illegible writing, whether spontaneously produced or copied, normal spelling and finger tapping speed, but great difficulties drawing.

Stealth Dyslexia

- Reading skills that appear to fall within the normal or even superior range for children their age, at least on silent reading comprehension.
- Difficulties with written output which makes turning words in their heads into signals that cause the motor system to form the letters needed to make words.
- Difficulty with procedural learning/ Sequencing and attention deficits**.**

Many children have symptoms that overlap more than one of the various subtypes, and are not easily categorized. Research suggests that approximately 60 percent of children with dyslexia have the dysphonetic form, while about 10 percent have the dyseidetic form. The remaining children generally have a combination of forms and symptoms.

Personal Differences

No two dyslexics are the same. The degree of difficulty a dyslexic person has with reading, spelling and/or speaking varies from person to person due to inherited differences in brain development and the type of teaching a person receives. The brain is normal but with strengths in areas other than language areas. Being dyslexic does not mean the individual cannot think, speak or be creative. Dyslexics become writers, doctors, lawyers, poets, engineers, artists, teachers and entrepreneurs. In the US alone, 33%-50% of entrepreneurs are dyslexic. NASA seek out dyslexics because they think "outside of the box". They are not likely to become court typists. They learn to make use of assistive technology and express themselves clearly with succinctness.

Learning Difference Not Learning Disability

Calling dyslexia a *learning disability* implies that the person with dyslexia cannot learn. However, with the proper instruction, dyslexics do learn. A more accurate term is *learning difference*. This difference is hidden until the person attempts to learn by reading and to communicate by writing. Unfortunately, we have been slow to understand what changes must occur in the process of instruction if the person is to learn.

Impact

The impact dyslexia has on an individual depends on:

- The severity of the condition
- The effectiveness of initial and ongoing reading instruction
- Access to remediation treatments if/as required.

People with Dyslexia many times experience a great deal of stress as they struggle to keep pace with their peers. With appropriate teaching, students with Dyslexia can learn successfully. Without it, a person's access to the curriculum is impeded, self-esteem can be lowered, career options are reduced and interpersonal communication skills are impacted. Early identification and treatment is the key to helping individuals with dyslexia achieve in school and in life.

Diagnosis

An individual is diagnosed with dyslexia when s/he presents with a cluster of symptoms that contribute to specific language difficulties, particularly reading.

Ideally, as appropriate instruction is systematically delivered, a student's progress along the reading continuum is regularly screened by teachers to ensure specific learning outcomes/benchmarks are achieved. Currently, if a student is not reaching benchmarks, schools take a *Response to Intervention* (RTI) approach. This means, students receive individualised and supplemental reading instruction before formal diagnostic tests by outside professionals are recommended. Federal policies encourage an RTI approach as there is no benefit in delaying special instruction for a student while waiting for involved testing processes to occur. If, after intervention, it is determined that a student requires formal diagnostic testing, trained specialists must include evaluation of the following language areas:

- Expressive and receptive language
- Phonological and phonemic awareness
- Rapid naming
- Blending of graphemes to pronounce syllables
- Identification of words and non-words in isolation
- Identification of words in context
- Ability to decode quickly enough to comprehend text
- Encoding (writing and spelling)

Treatment

All students with dyslexia benefit from regular reading instruction that is explicit and structured in approach. Many dyslexic individuals, however, require one-on-one help from a tutor, teacher or therapist specially trained in using a prescriptive, systematic and *multisensory* treatment. This involves the student's visual, auditory and kinaesthetic senses being applied to new learning. In addition, students with dyslexia require many opportunities for structured practice that involves immediate and corrective feedback in order to move forward at their own pace. For optimal results outside therapists should work closely with classroom teachers.

Academic Accommodations

Schools can greatly assist by implementing academic accommodations such as:

- Giving extra time to complete tasks
- Modifying assignments/homework
- Giving tests orally and using other alternative ways of assessing curriculum knowledge
- Providing audio versions/podcasts of required readings
- Giving access to assistive technology e.g. text to voice and voice-to-text computer software programmes.

Students may also benefit from sessions with mental health specialists to help them cope with emotional issues related to academic struggles and self-worth.