



Gemm
Learning



Dyslexia & Reading Difficulties, A Guide for Parents

Helping Your Child Overcome Dyslexia

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1.Introduction

As a parent of a child with reading difficulties you already understand the frustration that he or she experiences.

You see his despair as your child's academic achievements fail to match his abilities. You know that his inability to read effectively is seriously detrimental to his learning both for school and life. You see his self confidence take a battering when his friends and peers make progress in school but your child moves agonizingly slowly. You may feel terrible as the lack of effective reading solutions condemns him to a miserable school life.

Daily, you and your child experience the agonies; "spelling tests Fridays" provoke severe anguish and pain, homework fights in the afternoon that can create misery for the entire household. The list goes on.

Yet how can it be that in our country (a country with a high standard of living and a deservedly high reputation for education), your child and other children can be marginalized, underachieve and suffer because of a failure to read.

We will help you take control and help ensure that your child can transform his life by the improvement of his reading. This key skill will open the door to learning for your child, help him enjoy school life, improve his essential cognitive skills and transform his self confidence and self esteem.

2. What Is Dyslexia?

Dyslexia (pronounced: dis-lek-see-ah) is a type of learning disability.

A person with a learning disability has trouble processing or understanding words or numbers. The word dyslexia comes from two Greek words: **dys**, which means abnormal or impaired, and **lexis**, which refers to language or words.

Dyslexia is not a disease. It is a condition that may have been there from birth or occurred because of a lack of language development in the crucial years from birth to 4 years of age. People with dyslexia are not stupid or lazy. Most have average or above-average intelligence, and they work very hard to overcome their learning problems.

Formal Definition of Dyslexia Symptoms

Dyslexia is manifested in a continuum of specific learning difficulties related to the acquisition of basic skills in reading, spelling and/or writing, such difficulties being unexpected in relation to an individual's other abilities and educational experiences.

Dyslexia can be described at the neurological, cognitive and behavioural levels. It is typically characterized by inefficient information processing, including difficulties in phonological processing, working memory, rapid naming and automaticity of basic skills. Difficulties in organization, sequencing, and motor skills may also be present.

The Important Points:

- ✓ The **issue** is reading/writing/spelling skills
- ✓ **Unexpected**, i.e., the individual has the ability and access to education
- ✓ We have to **consider**, neurological (brain), cognitive and behavioral aspects
- ✓ Information processing is the **key**. Phonics, fluency, memory. Perhaps organization, sequencing and motor skills.

It is never too late for individuals with dyslexia to learn to read, process and express information more efficiently. Research shows that programs utilizing multisensory structured language techniques can help children and adults learn to read.

In this guide we address the Key Points and show you how to enable your child to become a good reader and learner.

How Common is Dyslexia?

Current studies suggest that **20 to 25% of the population has a reading disability**. Of those perhaps 70 to 80% are considered dyslexic -- dyslexia is the most common cause of reading, writing and spelling difficulties. It is simply a more extreme version of a reading difficulty.

Dyslexia occurs in people of all backgrounds and intellectual levels. Dyslexia affects males and females nearly equally, and people from different ethnic and socio-economic backgrounds as well.

In addition, dyslexia runs in families; dyslexic parents are very likely to have children who are dyslexic. Some people are identified as dyslexic early in their lives, but for others their dyslexia goes unidentified until they get older.

People who are very bright can be dyslexic. They are often gifted in areas that do not require strong language skills, such as art, computer science, design, drama, electronics, math, mechanics, music, physics, sales, and sports.

Theories On What Causes Dyslexia

It was only about 100 years ago that doctors first identified the set of learning problems that we call dyslexia. Over the years, there have been a number of theories:

Theories of Dyslexia

Vision. At first, many people believed that dyslexia was caused by vision problems so some early attempts at treatment involved eye exercises or glasses with tinted lenses. The enduring description of dyslexia to this day is the switching of "b" and "d" as if this is a visual difficulty. In fact, we now know that d's and b's are switched because struggling readers hear them the same - they cannot process language accurately enough to always hear the difference. Some lingering experts still support this theory of eye coordination today.

Auditory. In 1980, Paula Tallal at Rutgers University's campus in Newark, New Jersey, proposed that dyslexics have a defect in their perception of short or rapidly varying sounds. The defect is not disruptive enough to prevent dyslexics from learning to understand speech. It prevents them from associating short bursts of phonemes with their respective letters as they are learning to read.

Coordination. Some dyslexics also have problems with movement and balance. Roderick Nicholson of the University of Sheffield, UK, argues that dyslexia is caused by defects in the cerebellum, at the base of the brain.

Magnocellular. There is a magnocellular theory of dyslexia that combines the visual, auditory and cerebellar defects. Margaret Livingstone and Albert Galaburda of Harvard Medical School in Boston have researched this.

↑ Many dyslexia researchers agree that the **core issue is a specific defect in the brain's ability to decode phonemes**. While this is almost always due to a processing

deficit, it can also be caused by an integration (coordination) issue (getting from auditory to visual) or by a visual processing difficulty.

Over the past two decades, supporters of this phonological theory have amassed evidence documenting dyslexics' problems with phoneme processing, and confirming that these defects are the most commonly observed symptom of dyslexia.

Frith and Ramus of the Institute of Cognitive Neuroscience at University College London (UCL) demonstrated in their study of dyslexics that all had phonological deficits. Another study in 1999 by M Wolf and P.G. Browsers, published in the Journal of Educational Psychology concluded 88% of struggling readers share a common phonological awareness deficit. These numbers have been verified many times since then in countless other studies.

Frith and Ramus went on to say, "While only some dyslexics have abnormal vision and hearing, all have problems with tasks that specifically require them to manipulate phonemes," says Frith. This, she argues, indicates that dyslexia is essentially a disorder of phoneme processing; visual, hearing and cerebellar problems may often be associated with the condition, but they are not its direct cause.

Sally Shaywitz a renowned expert on dyslexia and the authoress of "**Overcoming Dyslexia**" says, "*Phonological difficulties are the most significant and consistent markers of dyslexia in children*"

They go on to say that dyslexia occurs because of the way that the brain is formed and the way that it processes the information it receives. People with dyslexia are actually wired differently. Pictures of the brain, taken with modern imaging tools, have shown that when people with dyslexia read they use different parts of the brain than people without dyslexia. We will look at this in the next chapter.

Most people think that someone with dyslexia reverses letters and numbers and sees words backwards, but reversals can occur as a normal part of development, and may or may not be seen more frequently in kids with dyslexia.

Some people have milder forms of dyslexia, so they may have less trouble in these other areas of spoken and written language. Some people have worked around their dyslexia but it takes a lot of effort, persistence and creativity. But dyslexia isn't something that goes away on its own or that you will outgrow.

The Effects of Dyslexia

The impact that dyslexia has is different for each person and depends on the severity of the condition and the approaches of the remediation. The most common effects are problems with reading, spelling, and writing. Some dyslexics do not have much difficulty with early reading and spelling tasks but do experience great problems when more complex language skills are required, such as grammar, understanding textbook material, and writing essays.

People with dyslexia can also have problems with spoken language. They may find it difficult to express them clearly, or to fully comprehend what others mean when they speak. Such language problems are often difficult to recognize, but they can lead to major problems in school, in the workplace, and in relating to other people. The effects of dyslexia reach well beyond the classroom. Other symptoms can include:

- Reading, spelling & writing difficulties
- Problems learning and matching letters and sounds

- Difficulties with rhyme and alliteration
- Poor short and/or long term memory
- Poor attention and focus
- Poor processing visually and auditorially
- Poor sequencing
- Weak in other school subjects

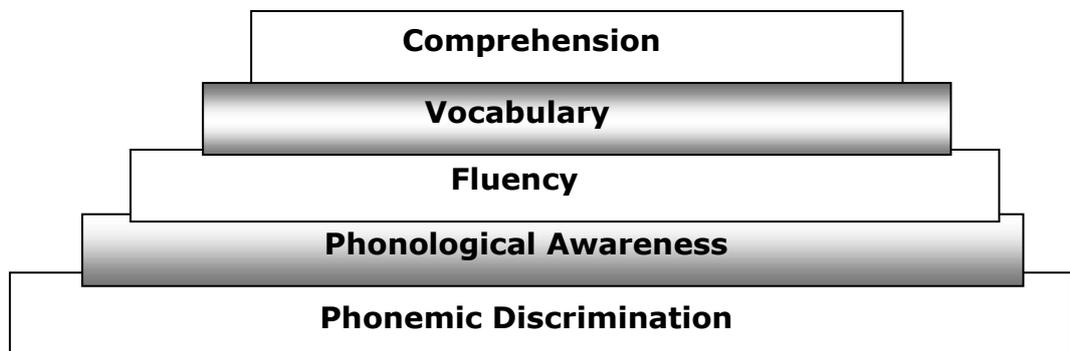
In general they do not achieve to the level of their abilities

Dyslexia can also affect a person's self-image. Students with dyslexia often end up feeling less capable than they actually are. After experiencing a great deal of stress due to academic problems, a student may become discouraged about continuing in school.

What Is Causing The Problem?

Perhaps the most important aspect of the dyslexic condition (and poor reading skills) is to determine what is causing the problem(s). And therefore what needs to be remedied.

Here's what a person needs to master to be a good reader, starting with a foundation in "phonemic discrimination" needed for "phonological awareness" needed for "fluency" needed for vocabulary and reading comprehension.



Beginning with a base of phonemes and grapheme correspondence skills the student needs to develop a strong phonological awareness and fluency in reading. Then vocabulary can be developed, synonyms, morphemes etc. Increasing sophistication is introduced in syntax and language structures. All the time the student will need to develop their learning cognitive skills of memory, attention, focus, processing and sequencing.

The main cause of reading difficulties is in phonemic discrimination and phonological awareness, caused mainly by auditory processing difficulties.

The Importance of Phonological Awareness.

Researchers have found that most people with dyslexia have trouble recognizing **phonemes** (pronounced: fo-neems), which are the basic sounds of speech (the "b" sound in "bat" is a phoneme, for example). That is, they are unable to make the connection between the sound and the letter symbol for that sound.

This makes it hard to recognize short, familiar words or to sound out longer words. It takes a lot of time for a person with dyslexia to sound out a word, so the meaning of the word is often lost and reading comprehension is poor. It is not surprising that some people with dyslexia also have trouble spelling, expressing themselves in writing, and even speaking because they still need to put phonemes together to form words whether spoken, written, or read.

Central Auditory Processing Disorder

Central Auditory Processing is basically the role the brain plays in the hearing process which ultimately enables us to develop learning skills.

People with CAPD have difficulty understanding instructions and sustaining attention, particularly in the classroom environment where there is frequently competing background noise. The reason why a child (or adult) experience difficulties processing information is because the sounds of the English language have not been sufficiently imprinted on the language centres of his brain. This will obviously prevent him from mastering the written language.

If you suspect that your child has Central Auditory Processing Disorder contact us for a free copy of our report on CAPD and an observational survey.

Cognitive Skills

A lot of poor readers have never fully developed their cognitive skills. Therefore they cannot pay attention long enough to absorb information. They forget easily. They are not able to follow instructions, multiple sequences; they are lost after the first few moments. They don't process information optimally, either visual or auditory.

Summary

There are many types of learning disabilities of which dyslexia is only one. Diagnosis is not a science. There are levels and indications, and often there are overlaps with other specific learning difficulties such as ADD, ADHD, dyspraxia and so on. Only a full psychological assessment will determine if any child or adult is dyslexic. Indeed other visual and hearing screens should be done to rule out any impairment, which could affect reading and learning abilities.

3. Dyslexia Warning Checklist

If you check four or more items, your child is at risk for dyslexia. Corrective action may be required. Which of these describe your child?

- Is a slow reader
- Struggles to read single syllable words
- Cannot read for meaning
- Struggles to sound out words
- Cannot read fluidly and smoothly
- Does not know which letters have more than one sound
- Does not read for fun, hates to read or is reading phobic
- Cannot apply phonics rules
- Cannot read consonant blends
- Has been or is currently getting help from a tutor for reading or is in a special reading instruction class or group
- Has an average or above average IQ but reading is below expected ability level
- Missed a lot of instruction due to illness, moving or changing curricula or schools
- Makes letter or word reversal errors (b for d)
- Randomly guesses at words
- Had multiple ear infections in early childhood
- Has had articulation problems (may or may not have had speech therapy)
- Had developmental language problems or had speech delays, i.e., was a "late talker" (may or may not have had therapy)
- Has family history of reading problems
- Was adopted and has no family history available
- English is his or her second language
- Has visual tracking problems
- Has auditory processing disorder
- Has difficulty following multi step directions

If this checklist is inconclusive, seek professional advice or call Gemm Learning for a free consult.

4. Our Dyslexia Program

Fast ForWord Software

Gemm Learning uses Fast ForWord software to help reading. Here is the approach:

1. As we learned above, most dyslexia and reading difficulties stem from an underlying processing difficulty that impacts phonological awareness
2. Fast ForWord builds the processing skills required for reading
3. Reading exercises then develop the vocabulary and critical thinking skills required for reading comprehension

The news is good

Over the last, ten to fifteen years, a tremendous amount of research has been carried out that has identified the key elements in reading proficiently. There are no miracle cures. But there are now effective solutions that have been proven to work.

Moreover the proof is categorically documented and done on a wide-scale giving great confidence and hope to children who want to overcome their dyslexia issues.

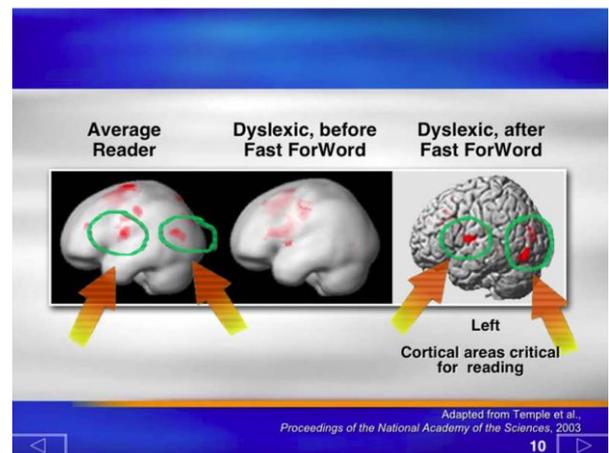
Neuroscience: Brain Plasticity

The first breakthrough is in the area of neuroscience. Studies have shown clearly that the brain can be worked on and retrained in order to improve the language processing essential for good reading. A breakthrough study completed in Stanford University demonstrated clearly that the brain patterns of a dyslexic person can be developed to resemble the workings of a normal reader with the result that they improve their reading and language abilities significantly.

This study, using fMRI images of the brain while reading, before and after our program, showed that Fast ForWord created new neural pathways in every case.

Even more important, the new activity occurs in the language parts of the brain used constantly by good readers, but only sparingly by dyslexics who tend to use a coping style based on memorization of sight words, visual clues, etc.

Follow up studies have replicated these findings. So far every student subjected to pre and post fMRI studies has experienced new brain activity.



Fast ForWord Learning Method:

The Fast ForWord program incorporates the following best practices:

- **Frequency, Intensity and Shaping.** Just as with learning new physical skills e.g., learning tennis, or building upper body strength, developing new learning capabilities requires consistent exercise, adding speed and complexity in tiny, incremental steps, called "shaping." Our students typically spend 30-50 minutes per day on our programs, five days a week, for a minimum of 12 weeks.

- **Adaptivity.** To make every minute of exercise intense and productive, the Fast ForWord exercises have been designed to constantly assess the participant's skill level, progressing at the student's own pace.
- **Simultaneous Development.** Lasting gains are achieved when cognitive, language and literacy skills are trained simultaneously. This is a major element of Fast ForWord.
- **Motivation.** We all learn better and quicker when we are engaged. Fast ForWord exercises have a computer games that are enjoyable, incorporating motivating graphics and positive reinforcement. This motivation is further developed through Gemm City, our online rewards site.

Fast ForWord cognitive exercises offer one-on-one adaptive training with a level of intensity and depth of instruction that can't be matched by direct human instruction or any other learning software. The program provides participants with something they can't get through classroom learning, tutoring, therapy or the workplace.

Protocol Steps

After a starting assessment, your Gemm professional will develop a protocol drawing from our library of over fifty Fast ForWord software exercises, based on your unique needs and goals.

While in the end, it comes down to strengthening processing, the path to reading proficiency has several key steps:

1. **Build a secure cognitive foundation.** We start by strengthening processing and other related cognitive skills required to make fluent decoding possible, called reading MAPS -- Memory, Attention, Processing and Sequencing.
2. **Develop reading fluency.** Once the cognitive foundation is in place, the program moves to spelling, vocabulary, visual processing, phonemic awareness and other exercises all aimed at make all text familiar and expected. This makes decoding easier -- more efficient and automatic. This phase also works to eradicate the bad habits of many dyslexic children, such as skipping words while reading.
3. **Reading comprehension.** We start with sentence comprehension and small paragraphs. Our program helps students to routinely think while reading and to read accurately -- often undoing prior bad habits such as word skipping. We also build vocabulary knowledge and grammar skills, all required for reading comprehension.
4. **Critical reading** (middle school and up). The final step is reading with meta-cognition, the ability to think critically about what you are reading -- to self-adjust and make inferences.

Protocols vary by age, student needs and your goals. In general, older children with dyslexia need less time to close the cognitive skills gaps and so are able to spend more time on reading comprehension. This is even truer for adults.

Our Focus

We focus on the language processing, cognitive skills, tuition and neuroscience aspects of overcoming dyslexia. There are other non-teaching interventions available that may be appropriate for your child. We cannot say. But we encourage you to investigate

them for yourself. There is often an overlap between dyslexia and other learning and behaviour habits. Therefore other interventions apart from teaching may be required.

Putting it into Action

Is it complicated? No. Think of it as a journey. Neuroscience has shown us that it is possible to reach our destination of reading proficiently.

Phonemic awareness, phonics and other language skills tell us what we need to complete the journey to be a good reader. The cognitive skills of focus, attention, memory, give us the trust that we have the skills to make the journey easier. We see that good nutrition adds turbo charged power. Motivation offers us the mentors and rewards to keep us going. The improved self confidence and self esteem that your child will gain when their reading and learning skills improve are the reward.

Let the Journey Begin

And if you need help on the way don't worry. Our aim is to give you the information that can help you understand dyslexia and reading problems so that you can help your child. Feel free to contact us with your questions. We will be delighted to assist you.

RESOURCES

The International Dyslexia Association www.interdys.org

The National Adult Literacy Association www.nala.ie

Our own site www.gemmlearning.com has many resources and is constantly being updated.

Gemm Learning

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