

## **Sound Based Therapies: Making Reading Easier!**

How would you describe reading? Is it the ability to look at letters, figure out that they are words, and that together they mean something? Is it the ability to match sounds to letters, and then figure out what the words mean? Or, is it the ability to comprehend what all the words mean together? In the past, reading disorders, like dyslexia, were considered a visual problem, i.e., letter reversals. Later, educators suggested that the basis of reading disorders was auditory, i.e., troubles with phonics. Most recently, researchers from the Wake Forest University Baptist Medical Center, Winston-Salem, NC have reported, that dyslexia is actually a problem related to the processing of both auditory and visual information.

Reading is a complex skill. In order to understand that the written symbols on a page have meaning, the student must have a language foundation. Language is typically learned when we hear the sounds of, and listen to our native language. Therefore, even though learning to read involves a multi-sensory process, the foundation is auditory. This makes sense since the ear, in utero, by five months is the only fully functioning sensory system. It is developed first, and therefore, one of our major sensory systems. The ear is involved with hearing, listening, balance, and coordination. By sending correct information to the brain at an early age, the brain is able to decipher all the small pieces of information necessary to learn language. The interpretation of these pieces of information becomes the basis for reading.

Breakdowns that occur with reading disorders can be varied. Some children have an excellent language foundation yet they have issues with the visual representation of the printed word. Letters can look reversed, words can blend into each other, tracking the words on a page can be difficult, or the color of the paper or print make it difficult to read what is on the paper. Any or all of these issues will make reading difficult. People with these difficulties can often be helped with special instruction, or by a Behavioral or Developmental Optometrist.

Children with language issues often have more difficulty because their problems are not as easily identified. Their problems may range from an inability to hear and process sounds associated with specific letters, causing difficulties with phonics, to the more complex skills needed to comprehend

the words they read. The range of auditory problems associated with reading often stem from the necessity to use the many diverse skills involved with auditory processing.

One skill would be the inability to quickly process speech sounds in order to clearly distinguish them one from the other. Tallal, et al, (1997) found that dyslexics have difficulty processing the temporal characteristics of rapidly changing acoustic signals of any sort. For example, this difficulty can interfere with their ability to distinguish the sound differences between the letters /t/ and /d/. These sounds can easily be ‘misheard’ in context so that /tad/ could be heard when /dad/ is what was said. This confusion leads to misunderstanding of what was heard which affects their reading skills. They must feel confident in order to know the difference between what they hear and what they read, as well as being able to quickly identify when they have made an error. It is important for students with slow or delayed auditory processing skills to enhance this skill.

Early readers need to learn that spoken words can be broken down into smaller segments called phonemes. Next they need to learn that phonemes have individual sounds that are represented by letters. These letters and sounds are then connected to form printed words. When training at this level is mastered, fluent reading usually occurs.

Early reading progress is typically measured by a child’s word-processing skills. Children may demonstrate errors with word or letter recognition. Simply acquiring these word-processing skills however, does not mean that the child will be able to comprehend what they read. Some children have such difficulty decoding words that the frustration makes them shy away from wanting to read. It takes a lot of energy for them to decode words and this limits their ability to develop the more complex tasks required for reading comprehension. Reading comprehension includes more complex cognitive tasks, and language skills are essential at this level.

A team of researchers from The University of Texas Health Science Center in Houston, TX used Magnetoencephalography (MEG), a non-invasive, high-resolution form of functional imaging to study the brains of readers and non-readers. Their research suggests that people with dyslexia “may lack the predominant involvement of left-hemisphere auditory association

cortices” shown in individuals without reading problems. They also reported that these problems can “occur in children with a wide range of general intellectual function”, meaning that reading problems are not correlated to intelligence. These auditory association cortices are important in sound identification, auditory processing, and language learning. The researchers further point out that the “brain in people with reading difficulties is responsive to intense intervention”.

Perhaps this is why, Dorinne Davis, President/Founder of The Davis Center, Mt. Arlington, NJ has found that sound-based therapies have made significant change for problem readers. Ms. Davis is an educational and rehabilitative audiologist, a retired teacher, and certified in every major sound-based therapy. She began using sound based therapies over 12 years ago. Based on her training, experience and research Ms. Davis developed the trademarked ‘Diagnostic Evaluation for Therapy Protocol’ to determine if a sound-based therapy can be helpful. This assessment helps identify hearing, listening, and sound processing weaknesses, and directs the person to an appropriate corrective intervention. She also uses her ‘Reading Intervention Skill Assessment’ to determine if a specific reading problem exists. For some, the issues are in basic sound processing and her interventions start at this basic level. Listening retraining may be necessary before tackling the more advanced levels of discrimination or comprehension. For those with specific reading issues, a reading intervention is suggested. This may be in the form of simple tutoring, a computer sound program, or at a more complex level, a program called Read-Spell-Comprehend®.

All of The Davis Center’s interventions are intensive programs. Based on the reports of brain researchers, intense therapy is needed in order to make brain change. One of the foundational methods employed by Ms. Davis is the Tomatis Method. Developed over 50 years ago by Dr. Alfred Tomatis, a French Ear-Nose-Throat physician. This method emphasizes the voice-ear-brain connection, and helps facilitate the connection between what our voices produce, and what our ear registers and sends to the brain. Dr. Tomatis found that good listeners easily distinguish between the various frequencies that make up speech. He also discovered that good listeners filter out the irrelevant sounds around them. By retraining one’s listening skills, one can make better sense and use of their surrounding sound world.

This method can be instrumental in helping a reader pick up the necessary subtleties of listening required to become good readers.

Jack, age 9, diagnosis ADHD, initially visited The Davis Center for a full evaluation. He had difficulty attending in class, was bored and frustrated in school, with no desire to read. Based on the Diagnostic Evaluation for Therapy Protocol testing, an over-reactive hearing sensitivity was identified and 2 therapies were administered. One of the methods administered was the foundational Tomatis Method. After completing the therapies, Jack's mother reported "his changes were so dramatic that he was enjoying going to school". Further he attended better, was listening and comprehending more of what he was being taught, more easily heard and discriminated sounds within words, and reported that phonics was easier. However, reading was still a concern. Read-Spell-Comprehend® was then recommended and one week after starting, his mother reported that "he couldn't wait to come home and start reading". His latest Report Card had mostly "Very Good's", and no "Needs Improvements". His mother suggested that The Davis Center should be renamed "The Miracle Center".

Ms. Davis's approach is multi-faceted. She looks at all aspects of how the person is functioning. Sometimes a reader's problem is the result of other underlying problems that must be addressed first, foundationally, before addressing the specific reading issues. If her approach is followed, most parents report that their child wants to read, initiates reading on their own, enjoys reading for the first time, and will attempt reading material at an advanced reading level. They begin to listen better, filter out extraneous distracting sounds, and feel more confident with their reading skills, both silently and out loud. Most often, these same reading skills enhance their creative writing skills. For more information about The Davis Center philosophy and methods, visit [www.thedaviscenter.com](http://www.thedaviscenter.com). The foundational approach is addressed first, focusing on developing what the ear and the brain process, before addressing the particular reading skills. This has proven to be helpful for most people with reading weaknesses.

## References:

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