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Learning Disabilities 101:

**Everything you need
to know about how
learning disabilities
affect reading skills**

Contents

Introduction

Dyslexia

Autism/Asperger's

ADHD

Auditory Processing Disorders

Dyscalculia

Dysgraphia

Down Syndrome

Specific Language Impairment

Introduction

Learning disabilities that can affect reading are more prevalent than people think. In an article by the Coordinated Campaign for Learning Disabilities, this fact was addressed along with why it is important that every parent and educator become aware of the symptoms, affects on reading and necessary intervention for certain learning disabilities.

Becoming aware of the warning signs of learning disabilities and getting children the necessary help early on can be key to a child's future.

Learning disabilities affect one in seven people according to the National Institutes of Health. Parents, therefore, need to be familiar with the early indicators of a learning disability in order to get the right help as soon as possible.

The earlier a learning disability is detected, the better chance a child will have of succeeding in school and in life. Parents are encouraged to understand the warning signs of a learning disability from as early as pre-school. The first years in school are especially crucial for a young child.

A recent National Institutes of Health study showed that 67 percent of young students identified as being at risk for reading difficulties were able to achieve average or above average reading ability when they received help early.

The most common learning disability is difficulty with language and reading.

Many children and adults with learning disabilities remain undiagnosed and go through life with this **"hidden handicap."** The resulting problems can lead to poor self esteem, failure to thrive in school, and difficulty in the workplace. With early detection and intervention, parents can give their children the necessary skills for coping with and compensating for the learning disability.

All children learn in highly individual ways. Children with learning disabilities **simply process information differently,** but they are generally of normal or above-average intelligence. Having a learning disability can affect a child's ability to read, write, speak, do math, and build social relationships. [1](#)

This book can be an important resource to understand these learning disabilities, recognize the symptoms, learn how they affect reading, and what intervention(s) can be helpful.

DYSCALUCULIA

DYSLEXIA

DOWN SYNDROME

ADHD

AUTISM

SPECIFIC LANGUAGE
IMPAIRMENT

ASPERGERS

DYSGRAPHIA

AUDITORY-PROCESSING
DISORDERS

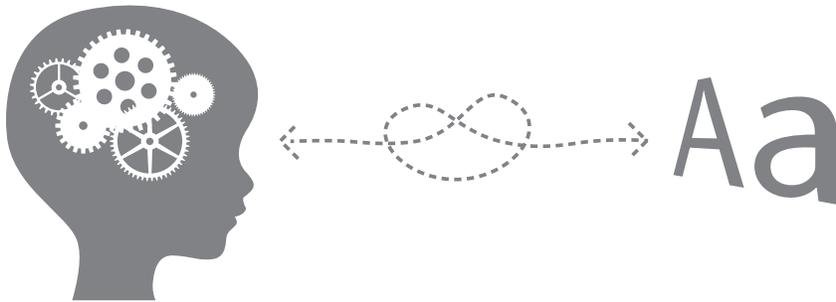
Dyslexia

“Dyslexia is not a disease to have and to be cured of, but a way of thinking and learning. Often it’s a gifted mind waiting to be found and taught.”

~ Girard Sagmiller, “Dyslexia My Life”

WHAT IS DYSLEXIA?

Dyslexia is difficulty in the use and processing of linguistic and symbolic codes, alphabetic letters representing **speech sounds** or numeric representing numbers or quantities. It can affect spoken language, written language and language comprehension. Dyslexia is the most-common **learning disability**, affecting nearly 10 percent of the population, despite intelligence, motivation, and education. While not the result of neurological damage, it is the product of neurological development. Dyslexia commonly runs in families and varies from mild to severe. Children don’t outgrow dyslexia, and adults with dyslexia suffer emotionally and financially because of it.



SYMPTOMS OF DYSLEXIA

Parents should be mindful of their child’s reading ability. Their vigilance can help detect problems that may not be obvious in a school setting. The following excerpt is taken from *Overcoming Dyslexia* by Sally Shaywitz and may be helpful as a handout for parents.

Just as a parent would not think of ignoring her child’s scheduled physical with his pediatrician, every parent should regularly observe her child reading. Given the high prevalence of reading difficulties, it is more likely for your child to have a reading problem than almost any other physical problem for which he is being checked.

Listen carefully as your child begins to read. For a **first grader**, is there evidence that he is trying, although imperfectly, to link letters with sounds? ... (Is he) matching sounds to letters in each position in a small word (beginning, end, and middle?) He should also be recognizing common letter groups [(blends, Digraphs, etc.) and patterns (silent e words, adjacent vowels, etc.).

By **second grade** his basic tools for reading should be in place. In particular, second grade should see the emergence of a child’s ability to read easy multisyllabic words (such as rabbit, butter, and sleepy). This important step involves paying attention to the individual parts within the word... He is... (recognizing) the

inner details of longer words as well. ... You should be concerned if your second grader is not yet sounding out words, is taking wild stabs at words, is not able to read new or unfamiliar grade-level words, has not yet penetrated the inside of a word when he is reading, cannot decode most single or some easy multisyllabic words, is not building a **vocabulary** of words that he can read fluently, or doesn't seem to enjoy reading. ...

As your child progresses through **third grade and higher**, your focus shifts from wondering if she is learning to read to wanting to know if she is learning to read a critical core of words fluently. Reading is changing in character now. Words are more complicated, and there are many more of them. In class the emphasis is less on **teaching reading** than on using reading to gain information. It is therefore easy to understand why reading problems are so often diagnosed for the first time in third grade. Since dyslexic readers often do not use a decoding strategy to identify a word and instead rely heavily on the surrounding context to figure out its meaning, you should notice if your child uses word substitutions; these replacement words make sense in the context of the passage, but do not resemble the pronunciation of the original word. For example, a child might read car for automobile. Making repeated substitutions is a sure sign that the reader is using context to guess at the meaning of words she has been unable to decode...

Pay attention to the overall rhythm of her reading. Is it smooth or hesitant? She should be reading most of the words on the page fluently... Slow or choppy oral reading with words omitted, substituted, or misspoken are important clues that a third grader is not on track for becoming a skilled reader...

Poor spelling is often a sign of dyslexia. Spelling and reading are intimately linked; to spell correctly a child relies on his stored representations of a word, and these are imperfect in dyslexia. Spelling difficulties may be an indication that the child is not paying attention to all the letters in a word and not storing that word correctly...



Handwriting (can) be an important clue to dyslexia. Children who are **dyslexic frequently have abominable handwriting** — a problem that continues into adulthood. I believe this difficulty reflects the dyslexic child's problem of appreciating the sounds that make up a word. ...

Bright **dyslexic adolescents** love to think, but for them it's hard to take in the raw material — the printed words — that serve as the source of inspiration for new ideas. They must devote their full concentration to decoding words instead of attending to issues of comprehension. Reflecting the lack of fluency, they read slowly... The lack of fluency causes significant problems for dyslexic adolescents as they try to cope with large volumes of written work. For example, homework assignments are often incomplete or take a great deal of time to complete. Fluency is what binds a reader to the text. If a child cannot effortlessly decode a critical mass of words on the page, he cannot engage the text. He'll be at odds with it. ...

Reading for (a dyslexic child) is fragile, and the process can be disrupted at any moment. Any little sound that draws his attention away from the page is a threat to his ability to maintain his reading. ... Dyslexic readers often require **an extremely quiet room** in which to do their reading or to take tests. ...

Persistent difficulties in learning a foreign language provide an important clue that a student may be dyslexic.

One final clue to dyslexia in children and adults alike: ... they are in pain. Dyslexia inflicts pain. It represents a major assault on self-esteem. (Dyslexic students may have) a reluctance to attend school or moodiness or spoken expressions such as "I'm dumb." ...

The key to success and to avoiding much of this frustration is to recognize dyslexia as early as possible, even before a child is expected to begin to read. ... The clues you have just read about can alert you to the possibility that a person you know is dyslexic. The presence of several of these clues is a sign that you need to take the next step: consider a more systematic and formal evaluation for dyslexia. [2](#)

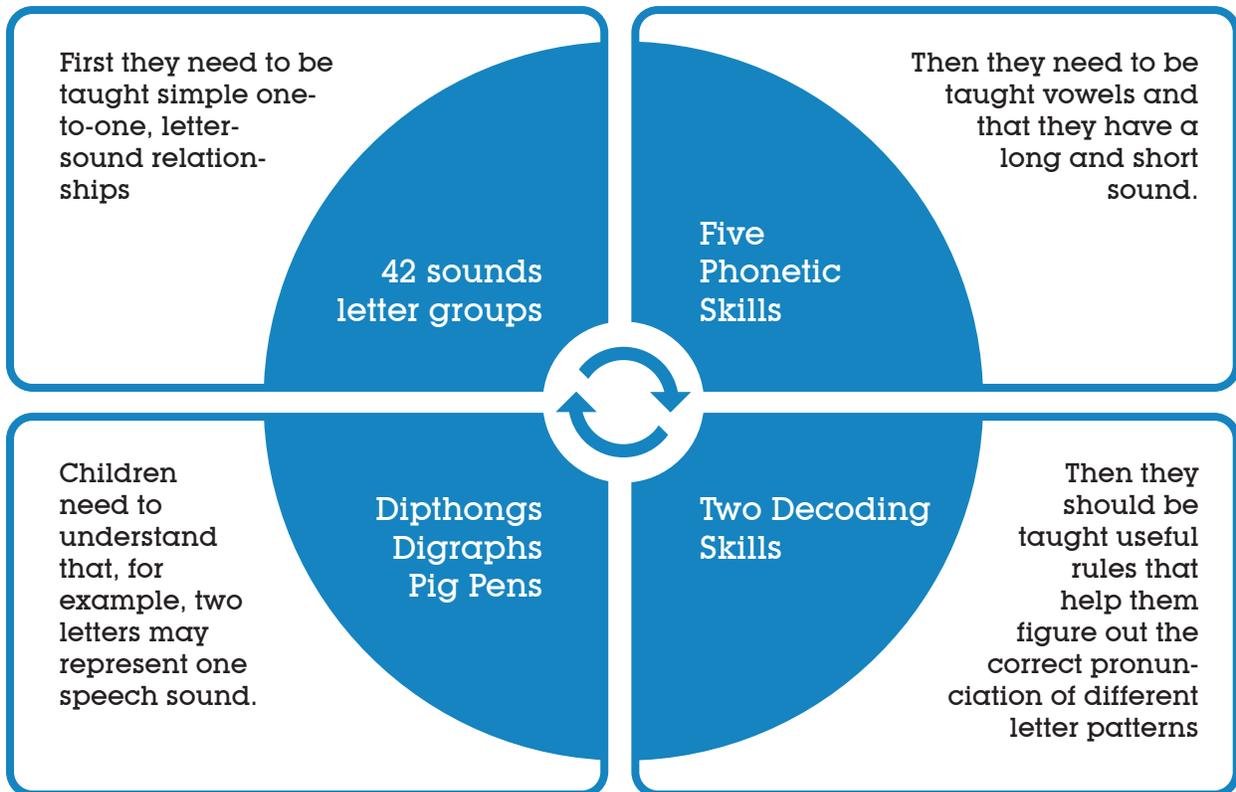
DYSLEXIA'S EFFECTS ON READING

- Very slow progress in acquiring reading skills
- The lack of a strategy to read new words
- Trouble reading unknown (new, unfamiliar) words that must be sounded out; making wild stabs or guesses at reading a word; failure to systematically sound out words
- The inability to read small “function” words such as *that, an, in*
- Stumbling on reading multi-syllabic words, or the failure to come close to sounding out the full word
- Omitting parts of words when reading; the failure to decode parts within a word, as if someone had chewed a hole in the middle of the word, such as *conible* for *convertible*
- A terrific fear of reading out loud; the avoidance of oral reading
- Oral reading filled with substitutions, omissions, and mispronunciations
- Oral reading that is choppy and labored, not smooth or fluent
- Oral reading that lacks inflection and sounds like the reading of a foreign language
- A reliance on context to discern the meaning of what is read
- A better ability to understand words in context than to read isolated single words
- Disproportionately poor performance on multiple-choice tests
- The inability to finish tests on time
- The substitution of words with the same meaning for words in the text he can't pronounce, such as *car* for *automobile*
- Disastrous spelling, with words not resembling true spelling (some spellings may be missed by spell check)
- Trouble reading mathematical word problems
- Reading that is very slow and tiring
- Homework that never seems to end, or with parents often recruited as readers
- Messy handwriting despite what may be an excellent facility at word processing-nimble fingers
- Extreme difficulty learning a foreign language
- A lack of enjoyment in reading, and the avoidance of reading books or even a sentence
- The avoidance of reading for pleasure, which seems too exhausting
- Reading whose accuracy improves over time, though it continues to lack fluency and is laborious
- Lowered self-esteem, with pain that is not always visible to others
- A history of reading, spelling, and foreign-language problems in family members



SOLUTIONS FOR OVERCOMING DYSLEXIA

According to Dr. Sally Shaywitz author of *Overcoming Dyslexia*, programs that teach phonics systematically and explicitly are the most effective: a program that teaches how to break the reading code in a sequential, systematic and cumulative format that helps all readers understand, retain and apply this code. They need to be taught the foundational concepts that govern the language.



Most students are able to read high school-level words upon completion of the [reading program](#). This does not mean that they are reading at a high school level, which includes [vocabulary](#), [fluency](#), and [comprehension](#); however, those areas will continue to improve as they are exposed to additional text.

TEACH ORTON-GILLINGHAM PRINCIPLES

What are Orton-Gillingham principles?

In the 1930s, physician researchers [Dr. Samuel T. Orton](#) and [Anna Gillingham](#) concluded that struggling readers flourished when exposed to the structured patterns of explicit, systematic phonics instruction. The Discover Intensive Phonics for Yourself method is sequentially infused with the [Orton-Gillingham](#) methods, including:

- Multi-sensory applications that engage kinesthetic, auditory, and visual cues.
- Teaches alphabet and phonics principles sequentially.
- Practical, language-based applications.
- Logical repetition using familiar styles of learning that allow learners to make language predictions about new language patterns.

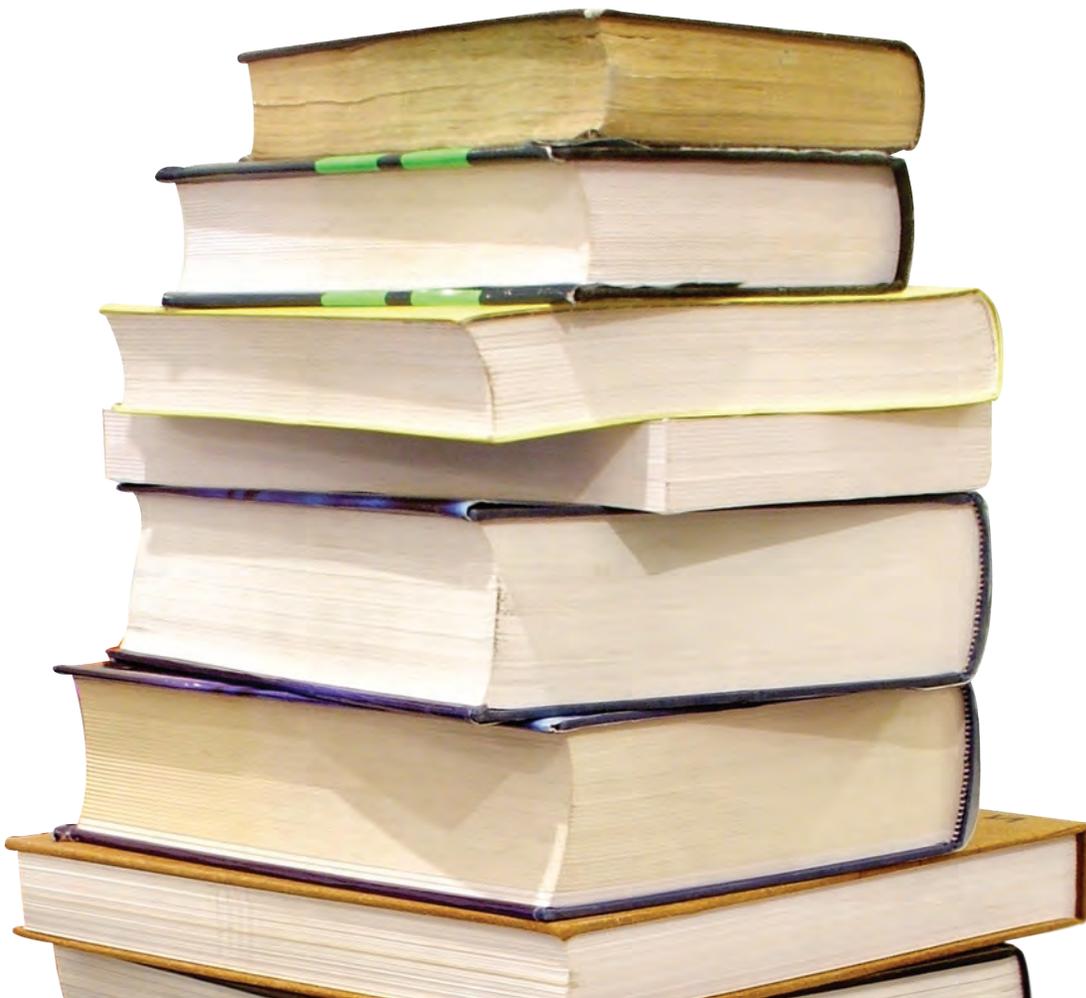
ORTON-GILLINGHAM CORRELATION

“Systematic phonics instruction has been used widely over a long period of time with positive results, and a variety of systematic phonics programs have proven effective with children of different ages, abilities, and socio-economic backgrounds. These facts and finding provide converging evidence that explicit, systemic phonics instruction is a valuable and essential part of successful [reading program](#).”

~ *National Reading Panel Report*

HELPFUL BOOKS ON DYSLEXIA

- *Overcoming Dyslexia*, by Sally Shaywitz
- *Right-Brained Children in a Left-Brained World*, by Jeffrey Freed, M.A.T., and Laurie Parsons
- *Helping Your Dyslexic Child*, by Eileen M. Cronin, Ph.D.
- *You Don't Have to Be Dyslexic*, by Joan M. Smith



Autism

WHAT IS AUTISM?

Autism is a complex developmental disability that typically appears during the first two years of life and is the result of a neurological disorder that affects the functioning of the brain, impacting development in the areas of social interaction and communication skills. Both children and adults on the autism spectrum typically show difficulties in verbal and non-verbal communication, social interactions, and leisure or play activities.

SYMPTOMS OF AUTISM

Core symptoms: The severity of symptoms varies greatly between individuals, but all people with autism have some core symptoms in the areas of:

Social interactions and relationships

Symptoms may include:

- Significant problems developing nonverbal communication skills, such as eye-to-eye gazing, facial expressions, and body posture.
- Failure to establish friendships with children of the same age.
- Lack of interest in sharing enjoyment, interests, or achievements with other people.
- Lack of empathy. People with autism may have difficulty understanding another person's feelings, such as pain or sorrow.

Verbal and nonverbal communication

Symptoms may include:

- Delay in, or lack of, learning to talk. As many as 40 percent of people with autism never speak.¹
- Problems taking steps to start a conversation. Also, people with autism have difficulties continuing a conversation after it has begun.
- Stereotyped and repetitive use of language. People with autism often repeat over and over a phrase they have heard previously (echolalia).
- Difficulty understanding their listeners' perspectives. For example, a person with autism may not understand that someone is using humor. They may interpret the communication word for word and fail to catch the implied meaning.

Limited interests in activities or play

Symptoms may include:

- An unusual focus on pieces. Younger children with autism often focus on parts of toys, such as the wheels on a car, rather than playing with the entire toy.
- Preoccupation with certain topics. For example, older children and adults may be fascinated by video games, trading cards, or license plates.
- A need for sameness and routines. For example, a child with autism may always need to eat bread before salad and may insist on driving the same route every day to school.
- Stereotyped behaviors. These may include body rocking and hand flapping.

SYMPTOMS DURING CHILDHOOD

Symptoms of autism are usually noticed first by parents and other caregivers sometime during the child's first three years. Although autism is present at birth (congenital), signs of the disorder can be difficult to identify or diagnose during infancy. Parents often become concerned when their toddler does not like to be held; does not seem interested in playing certain games, such as Peek-a-boo; and does not begin to talk. Sometimes, a child will start to talk at the same time as other children the same age, then lose his or her language skills. They also may be confused about their child's hearing abilities. It often seems that a child with autism does not hear, yet at other times, he or she may appear to hear a distant background noise, such as the whistle of a train.

With early and intensive treatment, most children improve their abilities to relate to others, communicate, and help themselves as they grow older. Contrary to popular myths about children with autism, very few are completely socially isolated or "live in a world of their own."

SYMPTOMS DURING TEEN YEARS

During the teen years, the patterns of behavior often change. Many teens gain skills but still lag behind in their abilities to relate to and understand others. Puberty and emerging sexuality may be more difficult for teens who have autism than for others this age. Teens are at an increased risk for developing problems related to depression, anxiety, and epilepsy.

SYMPTOMS IN ADULTHOOD

Some adults with autism are able to work and live on their own. The degree to which an adult with autism can lead an independent life is related to intelligence and ability to communicate. At least 33 percent are able to achieve at least partial independence.

Some adults with autism need a lot of assistance, especially those with low intelligence who are unable to speak. Part- or full-time supervision can be provided by residential treatment programs. At the other end of the spectrum, adults with high-functioning autism are often successful in their professions and able to live independently, although they typically continue to have some difficulties relating to other people. These individuals usually have average to above-average intelligence.

OTHER SYMPTOMS

Many people with autism have symptoms similar to attention deficit hyperactivity disorder (ADHD). But these symptoms - especially problems with social relationships - are more severe for people with autism. For more information, see the topic Attention Deficit Hyperactivity Disorder.

About 10 percent of people with autism have some form of savant skills-special limited gifts such as memorizing lists, calculating calendar dates, drawing, or musical ability.

Many people with autism have unusual sensory perceptions. For example, they may describe a light touch as painful and deep pressure as providing a calming feeling. Others may not feel pain at all. Some people with autism have strong food likes and dislikes and unusual preoccupations.

Sleep problems occur in about 40 to 70 percent of people with autism. 3

OTHER CONDITIONS

Autism is one of several types of pervasive developmental disorders (PDDs), also called autism spectrum disorders (ASD). It is not unusual for autism to be confused with other PDDs, such as Asperger's disorder or syndrome, or to have overlapping symptoms. A similar condition is called pervasive developmental disorder-NOS (not otherwise specified). PDD-NOS occurs when children display similar behaviors but do not meet the criteria for autism. It is commonly called just PDD. In addition, other conditions with similar symptoms may also have similarities to or occur with autism. ³



How Autism Affects Reading

One of the main areas that autism affects is communication. Many children with autism do not develop verbal language and communicating their needs is an ongoing challenge. Alternative systems of communication are frequently employed to provide support for children's communication attempts. Similarly, literacy is often slow to develop or absent in many children with autism.

Given the many social, behavioral and communication needs of these children, literacy learning can, in many cases, be assigned lower priority as an educational objective. The training

of special-education teachers reflects this priority with more training in behavior modification and behavior management than in teaching children to read and write.

THE READING PROCESS

Reading is a cognitive process. Basic to the process is the understanding that what can be said can be written down and then read again by the writer or by someone else. Once students grasp this basic concept, they must acquire an understanding of print (the code by which speech is represented as visual information) and the skills to decipher the code and turn it back into speech. In English, this visual information is comprised of the letters of the alphabet, arranged in systematic patterns and clusters to spell words. Each letter has its own distinctive visual features, and each letter stands for one or more sounds by itself or in combination with other letters. Beginning readers need to learn to associate letters with sounds in order to access the information represented by print and to comprehend the intended message. Comprehending the author's message is the goal of reading. Readers, at all levels, bring their own knowledge and experience to the task of reading and comprehending what is read. Oral language and background knowledge are important resources that readers use to decode print and make sense of the message.

WHAT RESEARCH TELLS US ABOUT TEACHING STUDENTS TO READ

There is a considerable body of scientific research that identifies effective ways to teach students how to read (National Reading Panel, 2001). Five areas of instruction have been identified that are critical elements to success in teaching reading.

Phonemic Awareness

Phonemic awareness is the ability to notice, think about, and work with individual sounds in spoken words. Before you become a reader you must be aware of the sounds that are in words. Readers understand that written words can be spoken and that they use phonemes or particular speech sounds when they read a word.

Phonics

Phonics is the relationship between the sounds of the spoken language (phonemes) and the letters of the written language (graphemes). Phonics is a system for remembering how to read words. The letters of the alphabet and their corresponding sounds when placed in memory are used to decode words.

Fluency

Fluency is the ability to read a text accurately and quickly. Fluent readers decode automatically and therefore are able to concentrate their attention on the meaning of the text. Fluent readers recognize and comprehend words at the same time.

Vocabulary

Vocabulary is the words we know and need to communicate. Oral vocabulary is the words we use when speaking and reading vocabulary is the words we can read in print. Reading text with meaning relies on the words used being part of the vocabulary of the reader. A reader needs to know most of the words that are read to comprehend the text. Understanding phonics and using these skills to decode text is not helpful if the word decoded by students is not a word in their vocabularies or the meaning of the word can't be determined by context.

Text Comprehension

The purpose of reading is to understand what is read. Comprehension is the ability to take meaning from text and to remember and communicate the meaning from the text. Good readers are those who monitor their comprehension to make sure they understand the text. ⁴

Those with autism need support in reading and the instruction is best if it is simple and visual, since those with autism are usually visual learners. It will be more difficult to connect the verbal and aural language with the written language for some, but still working to make that connection is still helpful. Because they lack social cues and a general inability to think from other perspectives, they will have a difficult time reading literature requiring a great deal of inference. Reading should be simple and enjoyable. Explicit instruction with connections to what the child knows and his/her personal experience will help since they process things from an overemphasized relation to themselves.

It has also been shown that their ability to process language information is affected. It is similar to the processing issues of those with dyslexia. It stands to reason then, that instruction and intervention used for those with language-processing disorders such as dyslexia, would be helpful to those with autism.

Reading Solutions for Autism

There is growing research on the type of [reading instruction](#) that seems to work best for those with autism and other similar [disorders](#). There are three main components that have been found to be essential for these

autistic learners: First, most are visual learners and need to have their material presented to them visually. Second, they do better with simple, concise and minimal directions or instructions for completing a task or applying a skill. Third, many do well with phonics-based instruction presented in a visual and simple manner.

Here are some additional tips to help with reading found in an article by Rachel Evans:

Teaching autistic children reading skills can be a daunting task. Some children will never read, but many higher-functioning children can learn to some extent and can end up being excellent readers.

Teaching autistic children to read has a very unique set of challenges that requires a parent or teacher to have a lot of patience. It can be like teaching children without autism but with the problems magnified.

Sometimes they can be very cooperative, but for the most part, autistic children have huge problems with attention span, lack any type of motivations to learn to read, and have problems with figuring out the rules of reading and grammar when compared to children who do not have autism.

Learning to read should be fun for any child, but when it comes to autistic children, you have to reach them on their level, so make sure you chose a method that meets their needs.

For some children sounds are important and using music as a tool to teach musically inclined autistic children to read is a very good move. Some programs will use music and singing to help a child with autism learn many things. Some also employ the use of games. These interactive methods usually help with attention span and interest, two of the biggest obstacles in this endeavor.

One important thing to remember when teaching an autistic child to read is that most reading requires creative thinking and this is something that many children with autism struggle with. This means that when learning, it is best to focus on materials that are based in reality. Stories about children like them going through an average day might be a good place to start. Steer clear of stories that are full of fantasy people like princesses and talking animals.

Continue reading for tips on teaching visual thinkers, and sign up for the free autism newsletter below.



Anyone teaching an autistic child to read should remember that many think visually. This means they are more likely to learn about words and letters through visual stimulation. Almost every child has a special interest, and autistic children are no exception. If they like trains, you may want to use trains as a visual guide to learning how to read. If they are interested in the subject matter they are more likely to pay attention for longer periods of time, and are more willing to learn because they will find it interesting.

Each child is different and will learn at a different pace and in a different manner. Don't be afraid to make use of the reading programs on the market designed with autistic children in mind. These have generally developed either through experience or with strong science behind them. They may be the best way to go about teaching autistic children to read when it seems they have no interest in doing so. [5](#)

ADHD

WHAT IS ADHD?

ADHD stands for Attention-Deficit Hyperactivity Disorder. It is a neurobehavior developmental disorder. It is usually characterized by attention problems and hyperactivity. It can change the way children act, think, and feel. Nearly all children are overactive and **inattentive** at times, but for **ADHD** children and their families their behavior can be extreme and disruptive.

ADHD is thought to affect between **three and five percent** of the school-age population. In general ADHD is estimated to be **three or four times more common in boys**. For some there is remission at puberty but for others the condition, if untreated, continues to blight their adult lives.

Generally the ADHD child is unable to concentrate, constantly moves around, and has poor school performance compared with intelligence. Their behavior at home and at school is disruptive.

SYMPTOMS OF ADHD

ADHD used to be known as attention deficit disorder, or ADD. In 1994, it was renamed ADHD and broken down into three subtypes, each with its own pattern of behaviors:

1. An **inattentive type**, with signs that include:

- Inability to pay attention to details or a tendency to make careless errors in schoolwork or other activities
- Difficulty with sustained attention in tasks or play activities
- **Apparent listening problems**
- Difficulty following instructions
- **Problems with organization**
- Avoidance or dislike of tasks that require mental effort
- Tendency to lose things like toys, notebooks, or homework
- **Distractibility**
- Forgetfulness in daily activities

2. A **hyperactive-impulsive type**, with signs that include:

- Fidgeting or squirming
- Difficulty remaining seated
- Excessive running or climbing
- Difficulty playing quietly
- Always seeming to be “on the go”
- Excessive talking
- Blurting out answers before hearing the full question
- Difficulty waiting for a turn or in line
- **Problems with interrupting or intruding**

3. A **combined type**, which involves a combination of the other two types and is the most common [6](#)

HOW ADHD AFFECTS READING

It is important to note that **ADHD is not a learning disability**. A student with a learning disability has a deficit in one or two areas while performing at or above average in other areas. In contrast, **ADHD affects learning globally** and compromises all cognitive functions rather than just one or two. It is like having all of the lights dimmed in the house as opposed to having one or two turned off with all the others on. It will affect the children when they are reading because it affects every cognitive function. It will become a problem when intense focus for long periods of time is required. For example, there are certain comprehension strategies that will require more focus than others, such as the strategy of summarization. If this were a strategy a teacher wanted your child to implement, you would need to work with your child's teacher to help him/her break down that strategy into more-manageable steps for application.

Children need to read in short segments of time with strategies and/or guidance on checking for understanding often throughout their reading.

It will also affect their reading if they are reading in a noisy environment with several distractions. You want them to read in a quiet space.

READING SOLUTIONS FOR ADHD

- Try to find books of interest for your children. They are more likely to focus for greater lengths of time on something that interests them.
- Reading should be done in short segments of time. Those with ADHD tend to read better in 10-minute increments.
- Teaching your children **comprehension strategies that help them connect to the text** are the most beneficial strategies since they often have a hard time with the executive-functioning tasks of holding key information in their working memories.
- **Children with ADHD benefit from using a bookmark or other tool to help them track and keep their attention where they are reading.**

Auditory-Processing Disorders

WHAT ARE AUDITORY-PROCESSING DISORDERS?

Auditory processing is the term used to describe what happens when your brain recognizes and interprets the sounds around you. An auditory-processing disorder interferes with a person's ability to recognize, distinguish, and interpret those sounds. This is different than problems involving hearing, such as deafness or being hard of hearing. The problem does not lie in the ability to hear sounds but in the ability to process those sounds.

SYMPTOMS OF APD

Children with auditory-processing difficulty typically have normal hearing and intelligence. However, they have also been observed to:

- Have trouble paying attention to and remembering information presented orally
- Have problems carrying out multistep directions
- Have poor listening skills
- Need more time to process information
- Have low academic performance
- Have behavioral problems
- Have language difficulty (e.g., they confuse syllable sequences and have problems developing vocabulary and understanding language)
- Have difficulty with reading, comprehension, spelling, and vocabulary [7](#)

COMMON AREAS AFFECTED BY APD

APD can be manifested slightly differently in each individual because it affects several common areas creating different educational implications. The areas include: phonological awareness, auditory discrimination, auditory memory, auditory sequencing, and auditory blending.

Phonological Awareness

Phonological awareness is the understanding that language is made up of individual sounds (phonemes), which are put together to form the words we write and speak. This is a fundamental precursor to reading. Children who have difficulty with phonological awareness will often be unable to recognize or isolate the individual sounds in a word, to recognize similarities between words (as in rhyming words), or to identify the number of sounds in a word. These deficits can affect all areas of language, including reading, writing, and understanding of spoken language. Though phonological awareness develops naturally in most children, the necessary knowledge and skills can be taught through direct instruction for those who have difficulty in this area.

Auditory Discrimination

Auditory discrimination is the ability to recognize differences in phonemes (sounds). This includes the ability to identify words and sounds that are similar and those which are different.

Auditory Memory

Auditory memory is the ability to store and recall information that was given verbally. An individual with difficulties in this area may not be able to follow instructions given verbally or may have trouble recalling information from a story read aloud.

Auditory Sequencing

Auditory sequencing is the ability to remember or reconstruct the order of items in a list or the order of sounds in a word or syllable. One example is saying or writing *ephelant* for *elephant*.

Auditory Blending

Auditory blending is the process of putting together phonemes to form words. For example, the individual phonemes *c*, *a*, and *t* are blended to form the word, *cat*. [8](#)

HOW APD AFFECTS READING

Not all reading disorders stem from APD and not all cases of APD result in reading difficulties. It is true, however, that the ability to read involves an auditory component.

If children have auditory-discrimination problems they will not be able to hear the difference between sounds or words that are similar (*coat/boat* or *ch/sh*). This can affect a number of areas but will undoubtedly affect spelling and reading. They will have a more difficult time attaching the correct sounds with the written representation of those sounds, which makes decoding more difficult.

If they have a problem with phonological awareness they will need explicit phonics instruction in a multi-sensory fashion to help connect the phoneme (sound) with the grapheme (letter that represents that sound) as they build patterns for words. Children who have difficulty with phonological awareness will often be unable to recognize or isolate the individual sounds in a word, to recognize similarities between words (as in rhyming words), or to identify the number of sounds in a word. These deficits can affect all areas of language including reading, writing, and understanding of spoken language. Though phonological awareness develops naturally in most children, the necessary knowledge and skills can be taught through direct instruction for those who have difficulty in this area. [9](#)

Because they are easily distracted by noises and can often have a hard time concentrating with background noise a children's reading can be affected if they are in a noisy environment. Those with APD should read in a quiet setting.

Children with APD often have a low vocabulary. This is often because during those early years when we are connecting sounds and making words and building our vocabularies they are missing sounds and mixing up sounds and words. They are unable to make strong connections to words they have seen and heard and are often confused or unaware of their usage and meanings. It is helpful to go over words that might be unfamiliar to them and monitor their reading to check for mispronunciations and understanding.

HOW CAN I HELP MY CHILD WITH APD?

Strategies applied at home and school can alleviate some of the problem behaviors associated with APD. Because it's common for kids with CAPD to have difficulty following directions, for example, these tactics might help:

- Since most kids with APD have **difficulty hearing amid noise**, it's very important to reduce the background noise at home and at school.
- Have your child **look at you when you're speaking**.
- Use simple, expressive sentences.
- Speak at a slightly slower rate and at a mildly increased volume.
- Ask your child to repeat the directions back to you and to keep repeating them aloud (to you or to himself/herself) until the directions are completed.
- For directions that are to be completed at a later time, writing notes, wearing a watch, and maintaining a household routine also help. General organization and scheduling can also be beneficial.
- It's especially important to teach your child to notice noisy environments, for example, and to move to quieter places when listening is necessary.

Other strategies that might help:

- Provide your child with a quiet study place (not the kitchen table).
- Maintain a peaceful, organized lifestyle.
- Encourage good eating and sleeping habits.
- Assign regular and realistic chores, including keeping a neat room and desk.
- Build your child's self-esteem [10](#)

HOW CAN I HELP MY CHILD BE SUCCESSFUL AT SCHOOL?



Making your children's teacher(s) aware will greatly increase their chances for success.

Five Things Teachers Need to Know

1. My child has **trouble listening**. Please understand that this is a **learning problem** and not a behavioral problem.
2. My child needs to hear things more than once to understand them. Please send important material home so that we can review it with her.
3. My child may have trouble **filtering out background noise** and may be **sensitive to sounds we wouldn't notice**. Please understand that he is trying to pay attention.
4. My child will benefit from being seated in clear sight of you and by having as many visual aids and cues as possible.
5. Please keep the lines of communication open between our home and the school. My child needs all of the adults in her life working together. [11](#)

HELPFUL BOOKS ON APD:

- *When the Brain Can't Hear*, by Teri James Bellis - Medical - Simon & Schuster
- *Central Auditory Processing Disorder: Strategies for Use with Children and Adolescents*, by Dorothy A. Kelly
- *Auditory Processes*, by Pamela Gillet. Academic Therapy Publications.
- *Central Auditory Processing Disorders: Mostly Management*, by M. Gay Masters, G. Masters, Nancy A. Stecker, Jack Katz. Allyn & Bacon.
- *Childhood Speech, Language, and Listening Problems: What Every Parent Should Know*, by Patricia McAleer Hamaguchi. John Wiley & Sons.
- *Like Sound through Water : A Mother's Journey through Auditory Processing Disorder*, by Karen J. Foli. Pocket Books.

Understanding Processing Deficits

Processing deficits interfere with the way students understand the information presented to them. These deficits can manifest themselves in any one of several categories. To help students get the most out of class time, the chart below outlines common struggles these students experience and teaching strategies that will help them learn. [12](#)

PROCESSING DEFICITS	MANIFESTATIONS	STRATEGIES
<i>Auditory Sequencing</i>	Confusion with number sequences, lists or lists of directions; hearing 94 instead of 49.	Provide written instructions as reinforcement of oral instruction; use of visuals with lectures.
<i>Auditory Memory</i>	Difficulty remembering what was heard; difficulty remembering important items from a lecture. Spells poorly.	Provide written instruction to look back on. Don't penalize spelling; just correct. Provide basic outlines of what is being presented.
<i>Visual Sequencing</i>	Problems in using a separate answer sheet. Loses place easily. Problems with reading. Reversing or misreading numbers of letters. Reading words incorrectly. Difficulty with equations.	Read directions aloud. Provide oral instruction. Write on the overhead. Color-code things written down. When writing questions on the board, change color every other question.
<i>Visual Memory</i>	Difficulty remembering what was seen. Reading comprehension. Difficulty with math equations. Poor recall of information.	Provide handouts that are clearly written. Provide oral instruction.
<i>Dysgraphia</i>	Inability to form letters correctly; students cannot read their own writing.	Oral tests. Tape projects.
<i>Visual Motor Integration</i>	Mechanical problems in test taking. Difficulty copying from board or book. Spaces poorly. Poor written work. Unorganized.	Allow use of computer. Tape recorder for lectures. Substitute oral reports. Provide individual written outlines so there are fewer steps to process. In math or science require answers only for calculations. Use graph paper. Have "note check". Provide a "note-buddy". Lower standards for acceptable writing.
<i>Auditory Discrimination</i>	Often seems to misunderstand. Trouble telling differences between similar sounds or words; 17 for 70. Seems to hear but not to listen.	Written lectures to follow. Talk at a slower pace. Give one task at a time.

<i>Auditory Figure Ground</i>	Trouble hearing sounds over background noises.	Sit the student near you.
<i>Visual Figure Ground</i>	Trouble seeing an image within competing background. Picking one line of print from another while reading.	Using an index card or marker when reading to blot out distraction of other words.
<i>Visual Discrimination</i>	Seeing the difference between two similar objects	Clearly spacing words/problems on a page.
<i>Spatial Orientation</i>	Loses materials. Late to class. Difficulty with oral reading. Unorganized homework. Difficulty judging time.	Provide more time for assignments, or shorten them. Encourage silent reading. Provide less reading material and more reading time. Provide help in organization.
<i>Expressive Language</i>	Difficulty expressing themselves. May sound cynical.	Provide opportunities for written reports. Allow adequate time to respond to questions.
<i>Receptive Language</i>	Appears to be not listening. Incomplete work.	Have students repeat directions back to you for understanding.
<i>Organization</i>	Incomplete assignments. Unorganized notebook/notes.	Provide course syllabus. Provide calendar with weekly plan, including homework. Provide written detailed explanation for projects. For long-term projects, have periodic checks (graded or non-graded). Show by example (ready-made notebook).

Dyscalculia

WHAT IS DYSCALCULIA?

Dyscalculia is a broad term for severe difficulties in math and includes all types of math problems ranging from inability to understand the meaning of numbers to inability to apply math principles to solve problems. Just as dyslexia refers to individuals who struggle with reading, dyscalculia refers to individuals of average intelligence who struggle with mathematical concepts and problems.

What Causes Dyscalculia?

Dyscalculia can generally be attributed to weaknesses in one or more of the following skill areas: memory, reasoning and logical thinking, and visual-spatial relationships. In addition, a math disability can stem from math anxiety (or math phobia).

Memory: Memory problems can impact a student's performance in a number of ways. He may have trouble recalling basic arithmetic facts and rules, for example. Or he may struggle with remembering the steps needed to solve a word problem or algebraic equation. He may even have difficulties remembering what specific symbols mean (e.g. +, -).

Reasoning and Logical Thinking: Weaknesses in a student's ability to reason and think logically can result in profound difficulties in mathematical performance. It can lead to problems differentiating between basic mathematical functions such as multiplication, division, addition and subtraction; it can interfere with a student's ability to choose alternative strategies in problem solving, and it can interfere with a student's ability to transfer and apply skills to new problems.

Visual-Spatial Relationships: Weaknesses in visual-spatial skills can also lead to a math disability. For instance, it can create problems such as misaligning numbers in columns, an inability to visualize fractions as part of a whole, confusion regarding decimal place values, trouble sorting objects by size, shape and color, difficulties understanding written information on a chalkboard or in a textbook and so on.

Math Anxiety: It is quite possible that a student may not have deficiencies in any of the above-noted skill areas yet still have a math disability. This can be attributed to acute math anxiety, which is a purely psychological disorder. Math anxiety is characterized by an overwhelming and intense lack of confidence in one's ability to do math. [13](#)

SYMPTOMS OF DYSCALCULIA

- Normal or accelerated language acquisition: verbal, reading, writing.
- Poetic ability.
- Good visual memory for the printed word.
- Good in the areas of science (until a level requiring higher math skills is reached), geometry (figures with logic not formulas), and creative arts.
- Difficulty with the abstract concepts of time and direction.
- Inability to recall schedules, and the sequences of past or future events.
- Unable to keep track of time.
- May be chronically late.

- Mistaken recollection of names.
- Poor name/face retrieval.
- Substitute names, beginning with same letter.
- Inconsistent results in addition, subtraction, multiplication and division.
- Poor mental math ability.
- Poor with money and credit.
- Cannot do financial planning or budgeting.
- Checkbooks not balanced.
- Short-term, not long-term financial thinking.
- Fails to see the big financial picture.
- May have fear of money and cash transactions.
- May be unable to mentally figure change due back, the amounts to pay for tips, taxes, etc.

More symptoms may include the following:

When writing, reading and recalling numbers, these common mistakes occur: number additions, substitutions, transpositions, omissions, and reversals.

Inability to grasp and remember math concepts, rules, formulas, sequence (order of operations), and basic addition, subtraction, multiplication, and division facts.

Poor long-term memory (retention and retrieval) of concept mastery; may be able to perform math operations one day, but draws a blank the next! May be able to do book work but fails all tests and quizzes.

May be unable to comprehend or “picture” mechanical processes. Lacks “big-picture/ whole-picture” thinking. Poor ability to “visualize or picture” the location of the numbers on the face of a clock, the geographical locations of states, countries, oceans, streets, etc.

Poor memory for the “layout” of things. Gets lost or disoriented easily. May have a poor sense of direction, may lose things often, and seems absent minded. (Remember the absent-minded professor?)

May have difficulty grasping concepts of formal music education. Difficulty sight-reading music, learning fingering to play an instrument, etc.

May have poor athletic coordination, difficulty keeping up with rapidly changing physical directions like in aerobic, dance, and exercise classes. Difficulty remembering dance-step sequences, rules for playing sports.

Difficulty keeping score during games, or difficulty remembering how to keep score in games, like bowling, etc. Often loses track of whose turn it is during games, like card and board games. Limited strategic planning ability for games, like chess. [14](#)

SOLUTIONS FOR DYSCALCULIA

How is dyscalculia treated? The first step in treating dyscalculia is to recognize that a math disability can be anxiety-producing and even traumatic for some students. Thus, it is imperative that those providing guidance and assistance (teachers, parents, tutors, friends) be infinitely patient and emotionally supportive. The second step in treating dyscalculia is to identify specific weaknesses (e.g., memory issues, sequencing

problems, etc.). Once specific problem areas are identified, effective remedial strategies can be implemented and reinforced. Here are some examples of corrective techniques:

- Help students to visualize math problems
- Provide examples that relate to real-life situations
- Use graph paper to help students keep numbers aligned
- Spend extra time helping students memorize math facts
- Provide one-on-one work with a tutor during after-school hours
- Make learning the basics fun by using flash cards and computer games
- Demystify math and emphasize that it is a skill that can be acquired [15](#)

RESOURCES:**Web Sites**

- www.MathematicalBrain.com
- www.DyscalculiaForum.com
- www.Dyscalculia.org
- www.Dyscalculia.me.uk
- <http://www.dyscalculia.org/thesis.html>

Books

- [Practical Activities for Children with Dyscalculia: Parents' Edition.pdf](#)
- [The Key to Time.pdf](#)
- [Maths for the Dyscalculic Pupil - Shapes, ercentages and fractions.pdf](#)

Dysgraphia

WHAT IS DYSGRAPHIA?

“Dysgraphia is a learning disability that affects writing abilities. It can manifest itself as difficulties with spelling, poor handwriting and trouble putting thoughts on paper” (National Center for Learning Disabilities [2006], found at LDOnline.org).

Those with dysgraphia usually have an unusual pencil grip, often with the thumb on top of the fingers. Their writing is slow and belabored, with unusual starting and ending points. They will usually make spelling errors and will have difficulty with capitalization and punctuation. They may also have unusual spatial organization on the page. Their words may be widely spaced or tightly pushed together. They may also have an issue with directionality, which is often the reason for spelling errors.

Dysgraphia is usually found in connection with [dyslexia](#), since both are [language-processing issues](#) and are affected by weaknesses in [directionality and sequencing](#). Writing, in general, is difficult for them but past the mere mechanics of handwriting. They also have an issue getting their thoughts down on paper for an essay or a report. They have a difficult time with proper sequence and organization. This, coupled with the basic handwriting issues, make this a task that most will avoid at any cost. Certain [accommodations](#) can and should be made.

SYMPTOMS OF DYSGRAPHIA

1. Students may exhibit strong verbal but particularly poor writing skills
2. Random (or non-existent) punctuation. Spelling errors (sometimes same word spelled differently); reversals; phonic approximations; syllable omissions; errors in common suffixes. Clumsiness and disordering of syntax; an impression of illiteracy. Misinterpretation of questions and questionnaire items. Disordered numbering and written number reversals
3. Generally illegible writing (despite appropriate time and attention given the task)
4. Inconsistencies : mixtures of print and cursive, upper and lower case, or irregular sizes, shapes, or slant of letters
5. Unfinished words or letters, omitted words
6. Inconsistent position on page with respect to lines and margins and inconsistent spaces between words and letters
7. Cramped or unusual grip, especially holding the writing instrument very close to the paper, or holding thumb over two fingers and writing from the wrist
8. Talking to self while writing, or carefully watching the hand that is writing
9. Slow or labored copying or writing even if it is neat and legible

HOW DYSGRAPHIA AFFECTS WRITING AND SPELLING

Dysgraphia does not affect reading in particular but having an understanding of the mechanics of the language will help those who struggle with dysgraphia. That is why receiving instruction in the phonetics of the language will help them with writing and spelling. The following are wonderful strategies written to guide teachers to help their students but they are also easily applied to help your child:



STRATEGIES

1. Encourage students to outline their thoughts. It is important to get the main ideas down on paper without having to struggle with the details of spelling, punctuation, etc
2. Have students draw a picture of a thought for each paragraph.
3. Have students dictate their ideas into a tape recorder and then listen and write them down later.
4. Have them practice keyboarding skills. It may be difficult at first, but after they have learned the pattern of the keys, typing will be faster and clearer than handwriting.
5. Have a computer available for them to organize information and check spelling. Even if their keyboarding skills aren't great, a computer can help with the details.
6. Have them continue practicing handwriting. There will be times throughout students' lives that they will need to be able to write things down and maybe even share their handwriting with others. It will continue to improve as long as they keep working at it.
7. Encourage students to talk aloud as they write. This may provide valuable auditory feedback.
8. Allow more time for written tasks including note taking, copying, and tests.
9. Outline the particular demands of the course assignments/continuous assessment, exams, computer literacy etc. so that likely problems can be foreseen.
10. Give and allow students to begin projects or assignments early.
11. Include time in the student's schedule for being a "library assistant" or "office assistant", which could also be used for catching up or getting ahead on written work, or doing alternative activities related to the material being learned.
12. Instead of having the student write a complete set of notes, provide a partially completed outline so the student can fill in the details under major headings (or provide the details and have the student provide the headings).
13. Allow the student to dictate some assignments or tests (or parts thereof) as a "scribe." Train the "scribe" to write what the student says verbatim and then allow the student to make changes, without assistance from the scribe.
14. Remove "neatness" or "spelling" (or both) as grading criteria for some assignments, or design assignments to be evaluated on specific parts of the writing process.
15. With the students, allow abbreviations in some writing (such as *b/c* for *because*). Have the student develop a repertoire of abbreviations in a notebook. These will come in handy in future note-taking situations.
16. Reduce copying aspects of work; for example, in math, provide a worksheet with the problems already on it instead of having the student copy the problems.
17. Separate the writing into stages and then teach students to do the same. Teach the stages of the writing process (brainstorming, drafting, editing, and proofreading, etc.). Consider grading these stages even on some "one-sitting", written exercises, so that points are awarded on a short essay for brainstorming and a rough draft, as well as for the final product.
18. On a computer, the student can produce a rough draft, copy it, and then revise the copy so that both the rough draft and final product can be evaluated without extra typing.

19. Encourage the student to use a spellchecker, and, if possible, have someone else proofread his work, too. Speaking spellcheckers are recommended, especially if the student may not be able to recognize the correct word (headphones are usually included).
20. Allow the student to use cursive or manuscript - whichever is most legible
21. Encourage primary students to use paper with the raised lines to keep writing on the line.
22. Allow older students to use the line width of their choice. Keep in mind that some students use small writing to disguise its messiness or spelling.
23. Allow students to use paper or writing instruments of different colors.
24. Allow student to use graph paper for math or to turn lined paper sideways to help with lining up columns of numbers.
25. Allow the student to use the writing instrument that is most comfortable for them.
26. If copying is laborious, allow the student to make some editing marks rather than recopying the whole thing.
27. Consider whether the use of speech-recognition software will be helpful. If the student and teacher are willing to invest time and effort in “training” the software to the student’s voice and learning to use it, the student can be freed from the motor processes of writing or typing.
28. Develop cooperative writing projects in which different students can take on roles such as the “brainstormer,” “organizer of information,” “writer,” “proofreader,” and “illustrator.”
29. Provide extra structure and use intermittent deadlines for long-term assignments. Discuss with the student and parents the possibility of enforcing the due dates by working after school with the teacher in the event a deadline arrives and the work is not up-to-date.
30. Build handwriting instruction into the student’s schedule. The details and degree of independence will depend on the student’s age and attitude, but many students would like to have better handwriting.
31. Keep in mind that handwriting habits are entrenched early. Before engaging in a battle over a students’ grips or whether they should be writing in cursive or print, consider whether enforcing a change in habits will eventually make the writing task a lot easier for students, or whether this is a chance for their student to make their own choices. Beware of overload; the student has other tasks and courses.
32. Teach alternative handwriting methods such as “Handwriting without Tears.”
33. Writing just one key word or phrase for each paragraph and then going back later to fill in the details may be effective.
34. Multisensory techniques should be utilized for teaching both manuscript and cursive writing. The techniques need to be practiced substantially so that the letters are fairly automatic before the student is asked to use these skills to communicate ideas.
35. Have the students use visual graphic organizers. For example, you can create a mind map so that the main idea is placed in a circle in the center of the page and supporting facts are written on lines coming out of the main circle, similar to the arms of a spider or spokes on a wheel.

36. Assign papers and assignments in a logical step-wise sequence. An easy way to remember these steps is to think of the word *POWER*.

P - Plan your paper

O - Organize your thoughts and ideas

W - Write your draft

E - Edit your work

R - Revise your work, producing a final draft

37. If a student becomes fatigued, have them try the following:

*Shake hands fast, but not violently.

*Rub hands together and focus on the feeling of warmth.

*Rub hands on the carpet in circles (or, if wearing clothing with some mild texture, rub hands on thighs, close to knees)

*Use the thumb of the dominant hand to click the top of a ballpoint pen while holding it in that hand. Repeat using the index finger.

*Perform sitting pushups by placing each palm on the chair with fingers facing forward. Students push down on their hands, lifting their body slightly off the chair.

38. Allow students to tape record important assignments and/or to take oral tests.

39. Prioritize certain task components during a complex activity. For example, students can focus on using descriptive words in one assignment and in another, focus on using compound sentences.

40. Reinforce the positive aspects of students' efforts.

41. Be patient and encourage students to be patient with themselves. [16](#)

READING SOLUTIONS FOR DYSGRAPHIA

A few accommodations would be:

- Encourage students to outline their thoughts. It is important to get their main ideas down on paper without having to struggle with the details of spelling, punctuation, etc.
- Have students dictate their ideas to someone else to type or into a tape recorder to write down later.
- Being able to use a computer will help them with spelling and handwriting issues so they can produce work faster and clearer.
- Students should be allowed additional time on writing tasks.
- Students should be provided an outline for notes so they can just add the details rather than trying to process the information and copy it down all at once. That is too difficult for them. They are usually too slow and will fall behind.

Those with dysgraphia can benefit from handwriting practice and can work with directionality. Being taught the mechanics of the language in a [systematic and sequential reading program](#) will help them with their spelling, which is a huge hurdle for them in their writing. Giving them clear, concise organization strategies for writing papers will be invaluable to them. Dysgraphia, as with any processing disorder, requires patience and understanding. With time, proven intervention, and applicable accommodations, those struggling with this challenge can achieve success.

Down Syndrome

WHAT IS DOWN SYNDROME?

Down syndrome (DS), also called Trisomy 21, is a condition in which extra genetic material causes delays in the way a child develops, both mentally and physically. It affects about 1 in every 800 babies.

The physical features and medical problems associated with Down syndrome can vary widely from child to child. While some kids with DS need a lot of medical attention, others lead healthy lives. [17](#)

SYMPTOMS OF DOWN SYNDROME

Individuals with Down syndrome may not experience all of the symptoms.

Some of the common symptoms are:

- Decreased muscle tone at birth
- Asymmetrical or odd-shaped skull
- Round head with flat area at the back of the head
- Small skull
- Slanting eyes
- Small mouth with protruding tongue
- Broad short hands with a single crease on the palm
- Retarded growth and development
- Delayed mental and social skills (mental retardation).

HOW DOWN SYNDROME AFFECTS READING

Children with Down syndrome usually have problems with hearing and with language production (speech/signing). This makes it difficult to process all of the sounds and to work from a phonetic perspective. They do have higher language comprehension than they do language production, so reading to them or letting them listen to books on CD will help enrich their language and will build sight vocabulary. They also have a higher visual memory than auditory memory so they usually have to initially approach reading from a sight-based or whole-language perspective. They develop in language like other children and will benefit greatly from decoding strategies taught through systematic instruction. They will need it to be explicit and visual with a great deal of repetition to help connect auditory and visual memory. Phonics will be easier for them to grasp a little later than for other children, at about age eight or nine.

READING SOLUTIONS FOR DOWN SYNDROME

Children with Down are like any other child in that immersing them in language and reading is helpful from a very early age. Reading instruction should be very visually based and it may be best to start with sight-word instruction while attaching it to pictures.

Children with Down syndrome will bring different degrees of phonological awareness (the ability to hear the sounds that make up words) to the reading task. They will have differing abilities to produce or say sounds even when they can perceive them; different abilities to recognize sounds in words, even when they know them as isolated sounds; and different abilities to say single words, words of different length and complexity, and sentences. Individual starting points and rates of progress will vary, as will the stage at which the learner

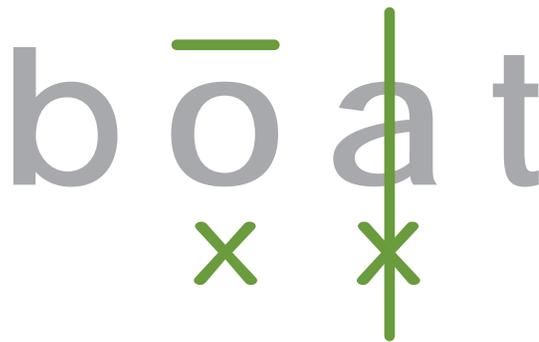
will begin to use phonic skills for reading and writing and the extent to which their skills will develop. There is no accepted pattern in the way that children with Down syndrome will hear, perceive, identify, recall or produce sounds, although learning to read, write, and spell; practicing speaking and developing clear speech will all affect this system of learning.

Phonics Instruction Should Include:

- **Learning how letters link with the units of sounds** that build words helps to develop children's phonological awareness. Teaching that helps to make the sound system of a language more explicit helps children to recognize, produce and monitor the sounds that they say and write.
- **All young children and many older children with Down syndrome benefit from practice saying the sounds** that make up speech and joining the sounds together to build syllables and words. This is a particularly useful way of teaching reading to children with speech motor difficulties, who may be considered as having speech dyspraxia.
- **Linking sounds with letters or groups of letters (graphemes)** may help speech perception, phonological awareness, reading, spelling and writing, and speech production. It is also likely to help their higher-order language processing by increasing their perception of grammatical words and promoting the development of grammar comprehension. [18](#)

SUGGESTED BOOKS

- *Teaching Reading to Children with Down Syndrome - A Guide for Parents and Teachers*, by Patricia Logan Oelwein (1995). Woodbine House.
- *Classroom Language Skills for Children with Down Syndrome - A Guide for Parents and Teachers*, by Libby Kumin (2001). Woodbine House.



Specific Language Impairment

WHAT IS SPECIFIC LANGUAGE IMPAIRMENT?

Children with specific language impairment (SLI) have difficulties with oral language that first become apparent in the preschool years, prior to formal schooling. Although the pace of oral-language development varies widely among typical youngsters, children with SLI have language difficulties that are clearly outside of the typical range and that can be diagnosed by a speech-language pathologist. A variety of components of oral language may be affected by SLI, including grammatical and syntactic development (e.g., correct verb tense, word order, and sentence structure), semantic development (e.g., vocabulary knowledge) and phonological development (e.g., phonological awareness, or awareness of sounds in spoken language). Children may manifest receptive difficulties; that is, problems understanding language, or expressive difficulties, involving use of language. These difficulties usually do not revolve around the motor aspects of producing or articulating words; for example, a child whose sole difficulty is stuttering does not have SLI. Specific language impairment is relatively common, affecting as many as five-to-10 percent of preschoolers, and it appears to have a genetic base in many families.

SYMPTOMS OF SPECIFIC LANGUAGE IMPAIRMENT

Symptoms include the use of short sentences and problems producing and understanding syntactically complex sentences. SLI is also associated with an impoverished vocabulary, word-finding problems, and difficulty learning new words; whereas the basic tasks for development of phonology and syntax are completed in childhood, vocabulary continues to grow in adulthood. [19](#)

SPECIFIC LANGUAGE IMPAIRMENT AND LEARNING DISABILITIES

Specific language impairment puts children at clear risk for later academic difficulties, in particular, for [reading disabilities](#). Studies have indicated that as many as 40-to-75 percent of children with SLI will have problems in learning to read, presumably because reading depends upon a wide variety of underlying language skills, including all of the component language abilities mentioned above (grammar and syntax, semantics, and phonological skills). Moreover, children with continuing language problems at school entrance are not the only ones at risk; Kindergartners with previous SLI who appear to have “caught up” to their age peers in language abilities still are at increased risk of reading difficulties, relative to children with no history of SLI. However, the preschoolers at greatest risk of future reading problems are those whose language difficulties are persistent over time, affect multiple components of language, or are severe, even if only in a single component of language.

READING SOLUTIONS FOR SPECIFIC LANGUAGE IMPAIRMENT

Parents who have concerns about the language development of their toddler or preschooler should seek an evaluation from a qualified speech-language specialist. These kinds of evaluations can be obtained in several ways. Parents can contact their local school district to request a developmental screening—no referral is needed. Also, speech-language evaluations may be provided pro bono or relatively inexpensively at many universities with departments that train speech-language pathologists. Young children with significant language difficulties are eligible for “birth to three” or preschool services at no cost to parents. Activities to facilitate language development may be administered by a speech-language specialist in the home, at a clinic, or in an early childhood-education program; parents generally are encouraged to be involved in the intervention and are given suggestions for ways to help their child. **Early identification and intervention are extremely important** in order to foster language and social growth and to give children the best possible

foundation for formal schooling. Although preschool language intervention may not eliminate the risk of future reading difficulties, it can prevent or reduce many problems. For example, children with language impairment may have temper tantrums that occur due to frustration over their inability to communicate effectively; intervention that enables children to communicate their wishes and needs can help to avoid these kinds of behavioral problems.

It should be noted that although children with SLI are at substantially increased risk of reading difficulties compared to other children, they are by no means destined for poor reading; some youngsters with a preschool history of SLI go on to achieve normally in school, and those with ongoing difficulties can certainly be helped. Toward this end, there are a number of things schools can do. **A comprehensive reading curriculum that provides explicit, systematic instruction in the abilities known to be important in reading - phonemic awareness, phonics, fluency, vocabulary, and comprehension - benefits all children, including those with language problems.** In addition, information about whether children have a history of SLI and about their language abilities upon entry to Kindergarten should be shared as they make the transition from preschool to formal schooling. Schools should be aware that a history of SLI increases the risk of reading problems even if children no longer meet eligibility criteria for speech-language services. These children must be monitored closely for early signs of reading difficulties - including difficulties in component reading-related skills such as phonemic awareness and knowledge of letter sounds - and provided with **prompt intervention** if it is needed. Children with continuing language difficulties will require speech-language services that are integrated and coordinated with reading instruction. A high-quality reading curriculum, careful monitoring, and prompt, appropriate intervention as needed can help children with SLI achieve success. [20](#)



Conclusion

Individuals with learning disabilities are bright and capable. Giving them the right tools to help in the areas affected, such as reading, allows them to reach their full potential. It is so worth the time and effort to help remediate these individuals. It empowers them with the correct keys to unlock doors that would otherwise have remained locked to them.

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