Published by the
Tri-Counties Branch
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The RESOURCE

The International DYSLEXIA Association

Creating Avenues of Success for Dyslexics!

Dyslexia: Not the only reading disorder

"When a child is a good reader, it's assumed their comprehension is on track. But 3 to 10 percent of those children don't understand most of what they're reading," says researcher Laurie Cutting. (Credit: theloushe/Flickr)

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The Role of Neuroscience in the Remediation of Students with Dyslexia

By Guinevere E. Eden, D. Phil. and Louisa Moats, Ed. D.

Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition, spelling and decoding abilities. Research findings agree that these and other observed behavioral manifestations largely result from a

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Vol. 29, Issue 1 *founded in memory of Samuel T. Orton* *Spring 2014*

Learning and the Language Connection By Eric Q Tridas, M.D.

Very few functions have such as great an impact on an individual's learning as his or her language abilities. The three basic academic skills children learn in the primary elementary grades are reading, writing and arithmetic. Without a proper language foundation no child can master these skills. This article will briefly describe the elements of language and the impact that they have on an individual's day-to-day performance.

Let us start with a basic definition of language. It is the ability which persons have that allows them to communicate with other human beings and with themselves (thinking). That is, language facilitates the transmission of ideas, emotions and desires from one person to another through manipulation of visual, auditory, or tactile symbols of communication. It also allows an individual to have internal mental activity or dialogue. From the definition it becomes evident that the main purpose of language is to allow individuals to communicate and that requires sensory input (sight, hearing and touch) as well as reciprocity (the give-and-take between the speaker and the listener). A speaker uses voice and gestures to relate thoughts and emotions. This is often referred to as expressive language. The ability of the listener to interpret the message accurately is called receptive language. The reciprocity in any communication requires the understanding of what one sees and hears and the response that is generated.

Language is a sequential task. That is, the order or sequence of its basic components will affect the meaning of what is being said. For example, when we reverse the order of the letters in the word god it will change the word to dog. Thus, it is a sequence of sounds that forms a word, and then, building on this concept, the sequence of words will make a sentence and a sequence of sentences a paragraph.

Language is composed of multiple elements each of which must work properly in order for a student to meet the developmental expectation of a classroom environment.

Language Elements

Phonology: The term phonology is a Greek word that combines two terms: phone, which means voice or sound, and logos denoting word, speech, or subject of discussion. The most basic unit of language is a sound which is referred to as a phoneme. Thus phonology is the study of the sound system of a language and the rules that govern how phonemes combine into words. The capacity to identify and manipulate the sounds within a word is essential to reading and writing. Children who present with difficulties in auditory discrimination (ability to differentiate one sound from another), phonics

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see the website for the latest details

Learning and the Language Connection

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(association between sounds and letters) and phonological awareness (the study of sounds and understanding how words are put together) will often experience reading and spelling problems because they cannot process the phonemes or sounds within a word. For example, a child who has good phonological awareness will recognize that the word pack has three sounds ([p] [ă] [k]). If that child also has adequate phonics skills he will know that there are many ways to write the sound [k] (i.e., c, k, ck, ch, qu or que). Children who struggle mastering phonological skills will most likely experience difficulties learning to read and write.

Morphology: This term is used to describe the structure and construction of a word. It comprises the study of the base word, roots, prefixes and suffixes. The combination of the different parts of the word will impact its meaning because each part has a different connotation. For example, if we add the prefix un to the word common it would indicate the opposite meaning of the base word (i.e., uncommon). A suffix such as ing is used to indicate an action (i.e. cooking). Mastery of morphology will have a significant impact in the development of skills such as reading, spelling and vocabulary.

Semantics: This is the study of the meaning of the words. In order for individuals to master semantic skills they must develop knowledge of vocabulary and the functions of language that convey meaning. That is, the person must understand that a word can have multiple meanings based on how it is used in a sentence. For example, the word hand can represent the part of the body that is attached to the arm (i.e., "Give me your hand.") or it could be used to request assistance (i.e., "Give me a hand."). This is why individuals with severe language delays or autistic related disorders often have trouble understanding the meaning of a word when it is used in the context of a common idiomatic expression.

Syntax: This term refers to the rules that determine the order and functions of the words in a sentence. That is, syntax is the method that we use to combine words to make a meaningful sentence. It includes grammar and requires knowledge of the mechanics of language and the different types of sentences. Changing the sequence of the words may change the meaning of the sentence. For example, we would say the sentence "The dog is in the house." as opposed to "The house is in the dog." Syntax is particularly important when a person is writing because they do not have the benefit of hearing the person's voice and intonation or seeing their gestures and facial expressions. Proper sentence construction and punctuation will help convey a more accurate message.

Pragmatics: This element is defined as the ability to use language for the purpose of socially interacting with others. Pragmatic language skills are the active processes of exchanging information and ideas and entail formulating, transmitting, and translating intended messages. In other words, the listener must understand what the speaker meant by what he said. In order to have appropriate pragmatic skills the person must understand that language can be used for different purposes such as greetings, requests, demands, informing or promising. It also refers to the need to modify language according to the listener or situation. For example, a person does not speak in

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Published biannually
Annual subscription price
1 year - $5.00; 5 years - $20.00

Send to:
TCB, 5225 Canyon Crest Dr., Suite 71-308, Riverside, CA 92507

THE RESOURCE is published by the Tri-Counties Branch of the International Dyslexia Association. Newsletter items, advertisements, and address changes are welcome and should be sent to: TCB, 5225 Canyon Crest Dr., Suite 71-308, Riverside, CA 92507-6321

Articles:

A Message from Your President

By Elaine Offstein

Hi Everyone,

It's almost spring and that means renewal and growth. It's an exciting time as we prepare for the year ahead. Remember to keep checking our website, www.dyslexia-ca.org for information on upcoming webinars, support groups and entertaining fund raising events.

Two important things enable us to plan events and grow as a chapter: 1) membership and 2) donations. Membership is of utmost importance and is crucial in two ways. First and foremost, the dues provide funds for the both the national office and our branch to function. When a person joins IDA, 80% percent of membership dues is kept by the national office to provide funds for daily operations; 20% are returned to each individual branch for our daily operations.

Secondly, when you become a member you become a voice for dyslexia and a voice for legislative change. Individuals with dyslexia require specialized instruction throughout the school years and providing that type of instruction requires legislative changes. Numbers of constituents are important when legislators consider issues and membership equals constituents.

The more members we have, the greater our voice is in both national, state, and local legislative bodies. If every member asks a friend, colleague, or relative to join with them, our growth can become exponential and our collective voices can become a powerful force for change in the way children with dyslexia and learning difficulties, and all children, are educated. Joining us is easy, just go to www.dyslexia-ca.org where you can join or donate and learn all of the benefits of being a member.

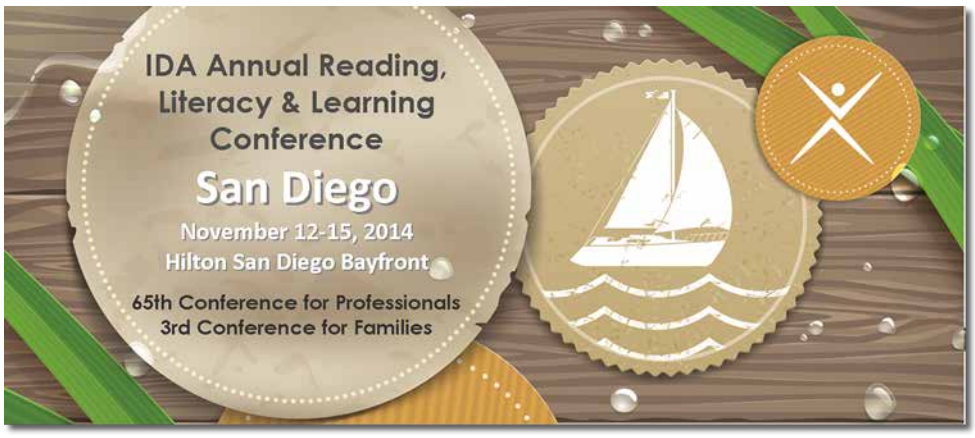
As a non-profit, all volunteer organization, donations are the other half of the equation that provides much needed juice to keep us going. Donations are important because membership dues alone do not provide enough funds for the national office to support research, provide free and low-cost literature about dyslexia, and lobby for legislative change. Donations are important to our branch, as well. Without donations made directly to our branch, we could not afford to hold our amazing conferences each year. Donations allow us to have an interactive website, host low-cost webinars, hold free parent support groups, and distribute free information regarding dyslexia and learning difficulties.

I want to welcome and thank all of you who became new and returning members this year. You have helped make this newsletter possible and facilitate the daily operations of our branch.

Looking forward to another successful year,

Elaine

THE TRI-COUNTIES BRANCH...
Endeavors to bring researchers and relevant literacy topics to the public and to share information regarding literacy, including dyslexia, via media, personal contact, and events focused on literacy



Reminder: The TCB has available scholarships (value $500) for any parent or teacher in Riverside, San Bernardino, or Orange County to enable them to attend this National Conference.

The Role of Neuroscience in the Remediation of Students with Dyslexia

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deficit in the phonological component of language. However, conflicting theories on the exact nature of the phonological deficit have given rise to divergent treatment approaches. Recent advances in functional brain imaging and genetics have allowed these theories to be examined more closely. If implemented appropriately, commercial programs can be effective in identifying dyslexia. Treatment of dyslexia has been advanced through neuroscience, yet further study is needed to provide rigorous, reproducible findings that will sustain commercial approaches.

Reading and reading failure

Unlike oral language, which is learned naturally from infancy, reading is a skill that is acquired at an older age, through instruction and with effort. The numerous and complex processes that are required for skilled reading were recognized as early as 1917: "the perception and discrimination of forms and sounds; appearance of letters; linkage of names with clusters of letters, and meaning with groups of words; memory, motor, visual and auditory factors; and motor processes as subsumed under processes of inner speech and reading aloud".

In our long-standing search for the causes of reading disability, each of these constituent processes has been studied and evaluated for susceptibility to failure. In recent decades neuroscience has been centrally involved in characterizing both the neurobiology and the genetics involved in reading; in particular, these findings have advanced the identification and treatment of the reading disorder developmental dyslexia. Today, dyslexia research efforts primarily address (i) the definition of developmental dyslexia; (ii) its biological basis; (iii) its early identification and (iv) the most effective treatment approaches. The ultimate goals for current research are better and earlier diagnosis (before reading failure ensues), as well as affordable and practical treatments.

When a child is unable to learn by traditional education, parents often invest in costly alternatives with questionable effectiveness. As with any treatment program, before investing time and money, parents should be asking questions: Is it helpful to dyslexic students? Do reading accuracy, fluency and comprehension improve? Is it a cost-effective solution? Has it been rigorously evaluated through scientific research studies that use standard reading assessment measures? Although the results from neuroscience research can help to provide this information, they are often inaccessible to the nonscientist. To ensure that families get the help they need, groups have emerged to assist in identifying a dyslexic child (an important first step in successful treatment), to evaluate the efficacies of reading remediation, and to clarify and summarize information from research. These services are typically provided by parent-supported philanthropic organizations, such as the International Dyslexia Association (IDA).

What is developmental dyslexia?

The definition of dyslexia itself has been the subject of much study, as selection criteria for dyslexics influence research findings and estimates of prevalence (currently 5-10% in the U.S. and the U.K.). In 1969, a formal definition of reading failure was put forward by Critchley with a neurobiological etiology in mind: "Specific Developmental Dyslexia: A disorder manifest by difficulty in learning to read despite conventional instruction, adequate intelligence, and socio-cultural opportunity. It is dependant upon fundamental cognitive disabilities which are frequently of constitutional origin." A definition currently supported by the National Institutes of Health states that dyslexia is inaccurate and/or slow, effortful reading that typically originates with weaknesses in the phonological processing system of language, although weaknesses in many other language functions may be observed. For example, text reading fluency, vocabulary acquisition and reading comprehension are adversely affected by this impairment. Today's neuroscientific approaches typically regard dyslexia as an unexpected reading problem that occurs despite normal intelligence, and that is often accompanied by a family history of similar reading, spelling or language problems. Policies that require a discrepancy between a child's IQ and his or her reading achievement in order to qualify for special education services are seen as invalid, however. Poor readers of all levels of intelligence have similar reading- related deficits, and most benefit from similar approaches to instruction. Although the neurobiological underpinnings of dyslexia and their interaction with environmental events continue to merit study, the focus of education leaders is now on widespread implementation of research validated treatments. These treatment approaches predominantly evolved on the basis of behavioral deficits seen in dyslexics. Not surprisingly their different accounts of the etiology of dyslexia have led to different treatment approaches.

The neurobiological basis of dyslexia

Physicians (frequently ophthalmologists) offered the earliest published accounts of dyslexia. Described as 'word blindness', dyslexia was frequently regarded as a visual dysfunction. The neurolopathologist Samuel Orton (1937) described it as a failure to represent print appropriately in the two occipital lobes. Although anomalies of posterior brain regions, specifically in the region of BA 37 in the left hemisphere, are commonly reported in today's functional brain imaging studies, the underlying pathophysiology is now known to be more complex. Anatomical studies show that anomalies pervade both left-and right-hemisphere regions throughout the dyslexic brain. Physiological differences have been

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Dyslexia: Not the only reading disorder

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VANDERBILT (US) — A lesser-known but common reading comprehension disorder, S-RCD, can easily be missed in early readers, experts warn.

Dyslexia, a reading disorder in which a child confuses letters and struggles with sounding out words, has been the focus of much reading research. But that's not the case with the lesser known disorder Specific Reading Comprehension Deficits (S-RCD), in which a child reads successfully but does not sufficiently comprehend the meaning of the words, according to lead investigator Laurie Cutting of Vanderbilt University's Peabody College of education.

"S-RCD is like this: I can read Spanish, because I know what sounds the letters make and how the words are pronounced, but I couldn't tell you what the words actually mean," Cutting says.

"When a child is a good reader, it's assumed their comprehension is on track. But 3 to 10 percent of those children don't understand most of what they're reading. By the time the problem is recognized, often closer to third or fourth grade, the disorder is disrupting their learning process."

The study was published online by the National Institutes of Health.

Researchers have been able to pinpoint brain activity and understand its role in dyslexia, but no functional magnetic resonance imaging (fMRI) studies, until now, have examined the neurobiological profile of those who exhibit poor reading comprehension despite intact word-level abilities.

Neuroimaging of children showed that the brain function of those with S-RCD while reading is quite different and distinct from those with dyslexia.

Those with dyslexia exhibited abnormalities in a specific region in the occipital-temporal cortex, a part of the brain that is associated with successfully recognizing words on a page. But those with S-RCD did not show abnormalities in this region, instead showing specific abnormalities in regions typically associated with memory.

"It may be that these individuals have a whole different neurobiological signature associated with how they read that is not efficient for supporting comprehension," Cutting says. "We want to understand the different systems that support reading and see which ones help different types of difficulties, and how we can target the cognitive systems that support those skills."

Researchers at the Kennedy Krieger Institute at Johns Hopkins School of Medicine contributed to the research, which is supported by the National Institutes of Health.

Source: Vanderbilt University

IDA DISCLAIMER

The International Dyslexia Association suports efforts to provide dyslexic individuals with appropriate instruction and to identify these individuals at an early age. The Association believes that multisensory teaching and learning is the best approach currently available for those affected by dyslexia. The Association, however, does not endorse any specific program, speaker, or instructional materials, noting that there are a number of such which present the critical components of instruction as defined by the Task Force on instruction as defined by the Task Force on Multisensory Teaching which works under the guidance of the Association's Teacher Education Issues Committee. Refer to IDA's Comparison Matrix of Multisensory, Structured Language Programs on our website.

NEWSLETTER MAILING POLICY

We mail the Resource free to all members. It is also mailed free to nonmembers for one year from the date they attended an event or contacted us. Nonmembers are invited to join IDA or to subscribe to the Resource (see page 2).

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Save the Date!

TCB's 36th Annual Conference – Strategies for Struggling Readers

LOCATION: **The Newly Refurbished Riverside Convention Center**
DATES: **Friday March 6, 2015 through Saturday March 7, 2015**
HOTELS: **Discounts available at the Riverside Marriott Hotel plus the New Hyatt Place Hotel**
SPEAKERS: **Cinthia Coletti** - Literacy, Education, and the Economy:
The State of the Nation and International Landscape – Implications for citizens and why you should care
Dr. Eric Tridas with Sister Gilchrist Cottrill
ADHD, Dyslexia, & Executive Function Problems: A Perfect Story & Management of Executive Function in the Classroom



Past Webinars & Online Events

Our Tri-Counties Branch offers many webinars, frequently on a monthly basis.
Did you know that you may order any of the past webinars and listen to them while accessing the full powerpoint?
All you do is
– go to www.dyslexia-ca.org/s, select the webinar you wish to view, and email us at tcb.info@dyslexia-ca.org
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INFO POWER 1 – https://1infopower.eventbrite.com
- **Reading Comprehension**
- **Vocabulary: Planting "Roots" of Academic Success**
- **The Reluctant Writer**
- **Jane Bernstein or Cheryl Chase-Carmichael from Annual Conference 2012**

INFO POWER 2 –https://2infopower.eventbrite.com
- **Early Intervention**
- **Practical Help**
- **Everyday Technologies for a Wordy World**
- **Transitioning into College**

INFO POWER 3 – https://3infopower.eventbrite.com
- **Vocabulary: Bringing Words to Life**
- **Dysgraphia**
- **Basic Facts About Dyslexia**
- **Phonemic Awareness**

INFO POWER 4 – https://infopower4.eventbrite.com
- **Fluency: Much More than Speed**
- **Myths About Dyslexia**
- **Word Play: Making Language Fun (audio only plus powerpoint)**

South Orange County
Dyslexia Parent Support Group

Support. Encourage. Empower. Share.
We're a group of parents coming together once a month, to offer support, share ideas & resources, and empower each other as we experience the successes and challenges of raising a child with dyslexia.
This group is intended to be a safe place where we can freely share what we are going through with others who understand, or may have overcome a similar challenge and can offer insight or experience.
The group is free! Please contact Haya Sakadjian for the next meeting date and time,
hasak@cox.net or text at 949/291-4690.
The group meets at Ortega Law & Professional Office Building
27345 Ortega Hwy, San Juan Capistrano, CA 92675
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Decoding Dyslexia CA

So CA Tri-Counties Branch IDA

Dovid Richards Memorial Scholarship Fund

Contributions to the Dovid Richards Memorial Scholarship Fund are welcome to help provide scholarships to parents and teachers to expand their knowledge of dyslexia. The fund was established by Regina and Irv Richards in memory of their son Dovid, who was in a fatal car accident shortly after his 21st birthday, in 1994.

As a 501(c)(3) organization, donations are tax deductible. Donations are a meaningful way to remember a loved one, honor a special occasion, or show appreciation for someone. Just send a note with your donation, indicating "in memory of" or "in honor of." Include the name and address of the person you wish to receive the acknowledgment. You will also receive acknowledgment of your contribution.

Learning and the Language Connection

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church the same way that he or she would speak on a playground nor would they speak to a baby the way that they talk to an adult. Pragmatic skills also require that certain rules should be followed when conversing which may include staying on topic, taking turns, introducing new topics of conversation, gestures, proximity to listener, facial expressions and eye contact. Individuals with poor language pragmatics have trouble with the prosody of their speech. Prosody is the ability to convey attitude or emotions through speech intonation, voice stress, speech rate, volume, or use of pause and hesitations. In other words, prosody refers to how persons sound when they speak (i.e., happy, sad, monotone, sing-song, etc.).

Pragmatic language skills cannot be mastered unless the person has an understanding of the speaker's beliefs, intents, desires and knowledge, and the recognition that others have beliefs, desires and intentions that are different from one's own. This concept is known as "theory of mind" and is a major deficit in individuals with autistic spectrum disorders and a primary cause of their difficulties with social interactions. This may also be a problem when a person travels to a different country where the culture may dictate different styles of communication such as physical proximity and gestures.

Metalinguistics: This term defines the function that allows a person to have language awareness. That is, the explicit knowledge of the nature and properties of language, how language is structured and used. This includes the ability to recognize that words can have multiple meanings, which may lead to linguistic ambiguity. It is the essence of puns, riddles and humor. The use of metaphors, figurative language, sarcasm and paradox are the result of the person's ability to make a judgment

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Reading Instruction: A Historical Timeline

Reading Instruction: A Historical Timeline

1700's – mid-1800's: Children are taught to read through memorization of the alphabet, practice with sound-letter correspondences, and spelling lists. The prevailing texts used for teaching reading are the Bible and political essays.

Mid-1800's: Some educators attack phonics and urge a meaning-base approach to learning to read.

Late 1800's: All-purpose reading materials are replaced by graded readers designed to match a child's age and ability.

1930's - 1970's: A look-say or whole word (not whole language) approach dominates reading instruction in schools. Instruction emphasized on comprehension.

1957: Rudoph Flesch's best-selling book, Why Johnny Can't Read, urges a return to phonics instruction. In a sharp political and emotional attack, Flesch accuses the whole word approach "of gradually destroying democracy."

1967: Jeanne Chall's book, Learning to Read: The Great Debate, is published. Chall continues to advocate for direct instruction in phonics.

Early 1970's: The Initial Teaching Alphabet (ITA), a phonetic alphabet, is used to reaching reading in Great Britain and some school systems in North America.

1970's: The whole language philosophy, which has diverse intellectual roots in Australia, Europe, and North America, emerges. The philosophy promotes a meaning-based approach to learning to read.

Mid-1970's: Research on reading shifts from a focus to texts to an emphasis on how readers construct meaning.

1984: The National Academy of Education releases Becoming a Nation of Readers, a report on the status of research in reading education.

1988: Researcher Marie Carbo reanalyzes Chall's earlier research on reading, calling some of the data analysis into question. A lengthy research debate ensues.

1990: Beginning to Read, a landmark study by psychologist Marilyn Adams, analyzes the role of phonics in beginning reading programs. The book fuels controversy over the nature of reading instruction.

1994: Low reading scores on the National Assessment of Educational Progress (NAEP) in California lead to a pro-phonics backlash against the whole language movement.

Mid-1990's: Studies released by the National Institute of Child Health and Human Development (NICHD) Of The National Institutes of Health indicate that children with reading difficulties benefit from explicit phonics instruction. Researchers believe the findings support phonics instruction for all students.

1995: California adopts two statutes known as the "ABC" laws, which require, in part, that the state board of education adopt instructional materials, including "systematic, explicit phonics, spelling, and basic computational skills."

1996: President Clinton launches the America Reads Challenge, a program to address national literacy concerns. Legislation corresponding with the initiative identifies reading instruction as a "local decision."

1997: The Clinton administration proposes a voluntary national test of fourth grade reading ability.

1997: Several California school systems are charged with violating the ABC statutes by using state funds to purchase non-approved whole language instructional materials.

1999: Book: Straight Talk About Reading: How Parents Can Make a Difference during the Early Years, Written by: Louisa C. Moats, Ed.D. and Susan L. Hall

2000: National Reading Panel - This 35-page summary report explains the origin of the Panel and its congressional charge. It succinctly describes the research methodology used and the findings of each of the Panel subgroups: (1) Alphabetics, (2) Fluency, (3) Comprehension, (4) Teacher Education and Reading Instruction, and (5) Computer Technology and Reading Instruction. This report also offers insightful information provided by Panel members on reading instruction topics that may require further exploration.

I have not failed. I've just found 1,000 ways that don't work.
Benjamin Franklin

The Role of Neuroscience in the Remediation of Students with Dyslexia

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reported during the performance of sensorimotor as well as reading-related cognitive tasks. Although the areas that have been identified in dyslexia are diffuse, the anomalous activity patterns observed in dyslexia are remarkably consistent across different cultures. This suggests that the basic pathophysiology of dyslexia is universal, despite some variations found in the phonological structure of diverse languages and in societal attitudes toward learning disabilities. Similarly, genetic evidence suggests the involvement of multiple genes: specific regions of the genome have been shown to be involved in a number of reading-related processes, and linkages have been replicated at independent laboratories across the world. The multigenetic nature of dyslexia is likely to be one explanation for its observed heterogeneity and its coexistence with disorders of attention.

Brain imaging studies are driven by observations of behavioral manifestations of dyslexia. In the last 30 years, classroom and laboratory-based studies have converged on the critical role of phonological processing in successful reading acquisition. Phonological awareness (PA), the ability to identify and mentally manipulate the constituent speech sounds, has been found to predict much of the variance in reading skill at any age, even in kindergarteners who are just learning the alphabetic principle (how sounds are represented by letter symbols). PA can be tested by asking a subject to repeat a word after omitting one of it sounds (for example, 'cat' without the /k/ or 'Germany' without the /m/).

Because explicit instruction in speech sound awareness and sound-symbol association helps to prevent reading failure, concerted research efforts have attempted to elucidate the functional neuroanatomy of phonological processing. Although initial studies gave inconsistent results, persistence and advances in brain imaging technology have brought us closer to understanding the functional neuroanatomy for phonological processing. Significant challenges remain, however: psychological models provide few clues about the underlying physiology, and this research does not benefit from animal models in the way that sensorimotor research does. Connectionist approaches have influenced reading models, moving the field away from assumptions that independent routes underlie the reading process. It has now become clear that PA shares attributes with other perceptual and cognitive skills and, not surprisingly, is widely distributed across the brain. It has also been established that throughout reading acquisition, PA and reading itself have a relationship of reciprocal causation: learning how letters represent sounds (phonology) and seeing words in print (orthography) helps novice readers to attend to speech sounds. Consistent with this observation, functional brain imaging studies in Portuguese illiterates have shown that the neural representation of phoneme processing is modified by a person's print experience. Similarly, genetic studies have shown that although much of one's PA skills can be accounted for by hereditary factors, significant variance can also stem from one's environment. A low heritability for orthographic coding suggests significant environmental influences, including instruction.

The exact mechanisms by which the brain recovers phonemes and associates them with visually presented orthography remain elusive. It has been suggested that this process relies on a linguistic process such as the 'articulatory gesture' rather than the speech sound, whereas others have argued for a very tangible link between the ability to process auditory input and the ability to perceive phonemes. These contrasting theories — a metalinguistic deficit hypothesis versus a temporal processing deficit in auditory system — epitomize divergent research approaches that both seek to understand the etiology of reading difficulties and to eventually offer solutions.

Identification of dyslexia with commercial programs

Several validated tests are now available to locate children with phonological and orthographic processing weakness. These tests' validity rest largely on the recurrent research finding that kindergarten and first grade children with poorer abilities in PA and timed letter naming are likely to experience reading failure unless appropriated instruction ensues. If at-risk children are taught in kindergarten and first grade, outcomes are significantly better than if treatment is withheld until later. First-grade intervention takes less time, has more benefit in the long term and is likely to prevent secondary emotional problems, in comparison to programs implemented at third grade or later. These research finding stipulate that valid screening tools should be used in all elementary schools to identify and promptly treat children with signs of incipient reading problems.

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DEFINITION

Dyslexia is a specific learning disability that is neurological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instruction.

Secondary consequences may include problems in reading comprehension and reduced reading experience that can impede growth of vocabulary and background knowledge.

Adopted by the
International Dyslexia
Association
Board of Directors,
November 2002

The Role of Neuroscience in the Remediation of Students with Dyslexia

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Effective classroom-based programs that minimize reading failure in all but 2-5% of children include several components: structured phonemic awareness (orally identifying and manipulating syllables and speech sounds), phonics (making associations between sounds and letters), fluency (developing speed and automaticity in accurate letter, word and text reading), vocabulary expansion and text comprehension. When this is not sufficient, teachers and clinicians have at their disposal many commercial programs for dyslexic students. Samples of commercial programs include the Orton- Gillingham Approach, Alphabetic Phonics, Slingerland Approach, Spaulding Approach, Project Read, Wilson Language, LANGUAGE!, the Sonday System, Lindamood-Bell and many others. These are systematic, cumulative, explicit and sequential approaches that allow professionals to teach language structure at many levels (sounds, syllables, meaningful parts of words, sentence structure, paragraph and discourse organization). All emphasize the importance of multi-sensory engagement of the learner and teach the phonological features of spoken language using motor, visual, auditory and kinesthetic feedback combined with extensive, controlled practice in word recognition. One of the Lindamood-Bell techniques addresses concepts of the motor theory of speech perception by emphasizing oral-motor feedback and explicit, detailed instruction in labeling speech sounds. Phono-Graphix, on the other hand, minimizes the multisensory mediation techniques of Orton-Gillingham approaches. The majority of these programs, however, have undergone only simple, quasi-scientific efficacy studies showing that if the program is implemented by a skilled teacher, students make significant progress. Another approach to intervention takes advantage of technical advances in computer animation and presentation. Earobics and Fast ForWord are examples of software programs that tap phonological and auditory processing skills through interactive computer games. Unlike many of the commercial programs listed above, Fast ForWord has emerged from a systematic, scientifically based study of the relationship between auditory processing and language. This and other more evidence-backed treatment approaches are described below.

You may read the remainder of this article (Studies of phonologically-based approaches, Studies of perceptual training, and Conclusions and future goals) on our web site by going to the website at http://dyslexia-ca.org/articles/

TCB Alert: Statewide Special Education Task Force Alert

ALERT!
STATEWIDE SPECIAL EDUCATION TASK FORCE ALERT!

Do you think that our dyslexic and other struggling readers' needs are being met by our public schools? Obviously not, if only 27% of our fourth graders score proficient on the NAEP! Here is a golden opportunity to let them know your recommendations for change.

The Task Force was formed to examine California's complex systems for serving students with disabilities and to forward recommendations designed to reform the system and to improve student outcomes to the Commission on Teacher Credentialing, the California Department of Education, the Legislature and the State Board of Education for consideration.

Here are some suggested recommendations to reform the system:

1. Recognize dyslexia as a specific learning disability in California.

2. Require that all teachers, administrators, school psychologists, and speech and language therapists be provided training on dyslexia, its warning signs and evidence-based reading interventions.

3. Universal Screening – Screen all students starting in Kindergarten for dyslexia or for being at risk for reading disabilities.

4. Implement early evidence-based interventions that work for dyslexic students through effective RTI or MTSS programs if students are not mastering the Common Core State Foundational Grade Level Reading Standards. Don't wait for our kids to fail!

5. Provide pre-service courses that meet the requirements of IDA's Knowledge and Practice Standards for Teachers of Reading.

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Learning and the Language Connection

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about the use of grammar and words. Metalinguistic skills allow a person to talk about language, analyze it, think about it, separate it from context, and judge it. This is a function that is commonly impaired in individuals with a severe language or autistic spectrum disorders and prevents them from fully understanding frequently used idiomatic expressions. In other words, they "don't get it." For example, when a mother of an autistic child talked to him about the need to control his "meltdowns" he did not understand that she was referring to his outbursts. Following her comment he pointed out that it was physically impossible for him to melt. These skills are also essential for the development of proper reading comprehension, such as when a person is required to interpret meaning, infer and extrapolate to have an appropriate understanding of what he or she read or heard.

Speech/Articulation: The muscle connection

Speech is defined as the ability to form and string sounds together. It requires controlling respiration (especially exhaling) and the coordination of the muscles of different parts of the throat and mouth to pronounce or articulate sounds and regulate volume appropriately. For example, the vocal chords allow us to produce voiced (when the vocal chords vibrate) or unvoiced (when vocal chords do not vibrate) sounds. Vowels are voiced sounds. The back of the tongue and soft palate are responsible for generating sounds such as [k] and [g]. Other sounds are produced at the tip of the tongue and the hard palate ([d], [t], [s], [z]), the lips ([m], [b], [p]), tongue and teeth ([th]) and the teeth and lips ([f], [v]). Articulation requires very complex coordination of the muscles of the throat, tongue, mouth and the diaphragm. It is responsible for the way we pronounce sounds, not what we are saying, which is the result of the language elements described above. The most common types of articulation disorders include omissions (e.g., chi-en for chicken, -chool for school), substitutions (e.g., wabbit for rabbit, a lisp – thix for six), distortions (e.g., imprecise pronunciation of [r] and [er]), and additions (e.g., animamal). Many children with articulation disorders may also experience fine motor control difficulties (coordination of the small muscles of the fingers). Some articulation errors may be developmentally appropriate, that is, they are considered normal at a young age, such as the sound substitutions described previously. However, this type of error would not be considered appropriate in an adolescent or adult.

Evaluation and Intervention

The assessment of speech and language generally evaluates the basic elements of language and articulation and are usually reported in two main domains: receptive (understanding) and expressive (communicating/speaking) language. Intervention can be provided by speech and language pathologists and other professionals that understand language functioning and its applications in the acquisition of basic academic skills.

It is also important for the parents to recognize the difference between speech and language therapy. The former refers to articulation and pronunciation of sounds, while the latter involves the basic elements of language that affect what we say and understand.

Understanding the basic elements of language and speech can allow parents, teachers and other professionals to ascertain what intervention services are appropriate to address a child's specific needs.

Please note: Dr. Tridas will be one of the speakers at our 2015 Annual Conference.

TCB Alert: Statewide Special Education Task Force Alert

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6. Require that all PK – 3 general education and all special education teachers pass a more rigorous credential exam that assesses their knowledge of the structure of language.

For more information about the Task Force, go to http://www.smcoe.org/about-smcoe/statewide-special-education-task-force/
Email your concerns and recommendations to www.spedtf@smcoe.org

If we care, we must act now. For our kids, we can't let this opportunity pass us by. They are ready to listen. Please add your voice to the chorus! Let them hear us loud and clear! Time is running out!

"I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel."

– Maya Angelou

The International DYSLEXIA Association

Promoting literacy through research, education, and advocacy

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Soaring through literacy

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Wait until you open this up and look inside!!
And then…… wait there's more --- see our website!
http://dyslexia-ca.org

Upcoming Events

A variety of webinars - refer to our website

November 12-15 - IDA Annual Reading, Literacy & Learning Conference

Also - take a look at our picture gallery from the 2014 conference - go to http://www.dyslexia-ca.org/2014-cnf-tsor/index.html

DYSLEXIA – TCB

Dyslexia-TCB is the name of our YouTube Channel. We have a large number of wonderful videos related to dyslexia and learning on it. They are organized into three (3) playlists:

- ***Education***
- ***Dyslexia Events***
- ***Recent Uploads***

Check it out and enjoy!!