

The Abc's of dyslexia By Michal Kohane

What do all these people have in common?

Albert Einstein

Leonardo da Vinci

Walt Disney

Cher

Woopi Goldberg

Woodrow Wilson

Robin Williams

Tom cruise

Harrison Ford

Magic Johnson

Charles Schwab

Winston Churchill

Thomas Edison

Alexander Graham Bell

General George Patton

Sports?

Science?

Art?

Movies?

Fame?

Politics?

They all are included among a long list of people who (suffered?? Enjoyed??) have\had dyslexia

There is an idea that this world and our life in it, are like a magnificent quilt. From our side, we see all the knots and twists, and can't figure out what's going on; from G-d's side, though, it is a beautiful artwork. Maybe the dyslexic sees it from G-d's side too, and therefore, the other side (our side) does not quite make sense.

What is dyslexia?

The word dyslexia comes from the Greek *dys*: difficulty or disturbance and *lexia*: word, speech (from the same root, we get lexicon, which implies words in order), thus meaning, a disturbance of the ability to read, or, as it appears in the DSM IV (TR) Reading Disorder.

In order to be diagnosed with dyslexia, a person may experience the following:

His or her reading achievement (i.e. reading accuracy, speed or comprehension as measured by individually administered standardized tests) falls substantially below that expected given the individual's chronological age, measured intelligence, and age appropriate education;

The disturbance in reading significantly interferes with academic achievement or with the activities of daily living, which require reading skills.

And if a sensory deficit is present, the reading difficulties are in excess of those usually associated with it.

A few interesting facts include:

- Individuals inherit the genetic links for dyslexia.
- Dyslexia affects males and females nearly equally, and people from different ethnic and socio-economic backgrounds as well.
- Although we have an official definition, in order to qualify for help in the public school system, a student has to demonstrate a significant delay in their reading, being about a year behind their age group. When tested, there has to be a certain amount of points between potential and achievement. Therefore, there is a lot of frustration for those “in between”: those who are “waiting” to earn their “year behind” as well as those who don’t quite have enough points to be classified as dyslexics officially, but show the same symptoms and have special needs.

The urgent need for more dyslexia research:

- It is estimated that as many as 15% of American students may be dyslexic.
- It is estimated that more than \$2 billion is spent each year on students who repeat a grade because they have reading problems.
- It is estimated that the cost of illiteracy to business and the taxpayer is \$20 billion per year.
- 50% of American adults are unable to read an 8th grade level book.
- Approx. 50% of the nation’s unemployed youth age 16-21 are functional illiterate, with virtually no prospects of obtaining good jobs.
- 60% of America’s prison inmates are illiterate and 85% of all juvenile offenders have reading problems.

Not all illiteracy is dyslexia (some may be environmental etc.) Nevertheless, the great need of reading corresponding with the number of people who have various troubles in this area - should be alarming.

Specific Symptoms:

The following difficulties may be associated with dyslexia if they are unexpected for the individual's age, educational level, or cognitive abilities. To verify that an individual is dyslexic, he/she should be tested by a qualified testing examiner.

PRESCHOOL:

- May talk later than most children
- May have difficulty pronouncing words, i.e., ***busgetti*** for ***spaghetti***, ***mawn lower*** for ***lawn mower***
- May be slow to add new vocabulary words
- May be unable to recall the right word

- May have difficulty with rhyming
- May have trouble learning the alphabet, numbers, days of the week, colors, shapes, how to spell and write his or her name
- May have trouble interacting with peers
- May be unable to follow multi-step directions or routines
- Fine motor skills may develop more slowly than in other children
- May have difficulty telling and/or retelling a story in the correct sequence
- Often has difficulty separating sounds in words and blending sounds to make words

K-4TH GRADE:

- Has difficulty decoding single words (reading single words in isolation)
- May be slow to learn the connection between letters and sounds
- May confuse small words - **at - to, said - and, does - goes**
- Makes consistent reading and spelling errors including:
 - Letter reversals - **d** for **b** as in, **dog** for **bog**
 - Word reversals - **tip** for **pit**
 - Inversions - **m** and **w, u** and **n**
 - Transpositions - **felt** and **left**
 - Substitutions - **house** and **home**
- May transpose number sequences and confuse arithmetic signs (+ - x / =)
- May have trouble remembering facts
- May be slow to learn new skills; relies heavily on memorizing without understanding
- May be impulsive and prone to accidents
- May have difficulty planning
- Often uses an awkward pencil grip (fist, thumb hooked over fingers, etc.)
- May have trouble learning to tell time
- May have poor fine motor coordination

5TH-8TH GRADE:

- Is usually reading below grade level
- May reverse letter sequences - **soiled** for **solid, left** for **felt**
- May be slow to discern and to learn prefixes, suffixes, root words, and other reading and spelling strategies
- May have difficulty spelling, spells same word differently on the same page
- May avoid reading aloud
- May have trouble with word problems in math
- May write with difficulty with illegible handwriting; pencil grip is awkward, fist-like or tight
- May avoid writing

- May have slow or poor recall of facts
- May have difficulty with comprehension
- May have difficulty making friends
- May not understand body language and facial expressions of others
- May have trouble with non-literal language (idioms, jokes, proverbs, slang)
- May forget to hand in homework or to bring in homework
- May have difficulty with planning and time management.

HIGH SCHOOL:

- May read very slowly with many inaccuracies
- Continues to spell incorrectly, frequently spells the same word differently in a single piece of writing
- May procrastinate reading and writing tasks
- May avoid writing
- May have trouble summarizing and outlining
- May have trouble answering open-ended questions on tests
- May have poor memory skills
- May not adjust well to new settings or to change
- May work slowly
- May have poor grasp of abstract concepts
- May pay too little attention to details or focus too much on them
- May misread information
- May not complete assignments; may complete them and not hand them in
- May have an inadequate vocabulary
- May have an inadequate store of knowledge from previous reading
- May have difficulty with planning and time management

ADULTS:

- May hide their reading problems; many subterfuges
- May spell poorly; relies on others
- Avoids writing; may not be able to write
- Often very competent in oral language
- Relies on memory; may have excellent memories
- Often has good “people” skills
- Often is spatially talented; engineers, architects, designers, artists and craftspeople, mathematicians, physicists, physicians (esp. orthopads, surgeons), dentists
- May be very good at “reading” people (intuitive)
- In jobs is often working well below their intellectual capacity
- May have difficulty with planning and organization
- May have difficulty with time; often too early, late or forgets appointments. Relies on digital watches; cannot tell time

- Often entrepreneurs; may have lost one or more businesses they started.

THEREFORE, It is important to note that dyslexia is not something one outgrows, but something one learns to live with and cope with. Girard Sagmiller, who is dyslexic himself and has devoted his life to educating people about dyslexia, says that it is like getting ready to run a 100 meters dash, and when you look up you discover that there are hurdles in your lane. If you run like everybody else, you'll fall. Somebody needs to teach you how to run hurdles, which we'll discuss a little later in the section about treatment

Also, it is important to note that this is a learning disability, not a behavioral one. Sometimes it leads to behavior problems, since the student cannot participate fully in class activities. Often, there are issues of self esteem involved, and the dyslexic student turns into the "class clown" to amuse others, draw positive attention to him(her)self, and stir away from what's troubling them. It has also been noted that dyslexics are often especially intelligent, so that they are very aware of what is happening.

History:

W. Pringle Morgan, a general practitioner in Sussex, England, first described dyslexia about 100 years ago. In 1896 he published an article in the British Medical Journal about a 14-year-old boy named Percy, who was "quick at games and in no way inferior to others of his age" – except that he was unable to read. It is no wonder that up until reading and conventional schooling became part of everybody's lot in our society, dyslexia was largely unknown.

Because Percy and others like him had problems with written words, not with spoken language, it was assumed that the problem is visual. Dyslexia was turned over to ophthalmologists, who tried to teach dyslexic kids by using oversized letters and words. That did not help because dyslexics see as well as everybody else, however according to some research and as we'll see later, they do see things – different.

What dyslexics have trouble with is pulling words apart into their constituent sounds, what scientists call phonemes. These are the smallest discernible segments of speech; there are more than 40 of them in the English language. To understand how this process works, let's take the example of the word "cat". The word "cat" is made up of three phonemes: "kuh", "aah" and tuh". Most people understand this, but dyslexics can hear only "cat" – one sound. As a result, they can't sound out words, the first step in reading.

According to others, dyslexics also see in pictures; they see things in 3-D, so to speak. Reading is a 2-D process. Letters like p, b & d look alike, thus creating confusion in their reading process. Whether it is all hearing, visual or more likely

combination of the two, somehow, dyslexics cannot make the connection between the symbol and the sound. When comparing dyslexic students with non-dyslexics in some studies, MRI's show different flow of blood in the brain. There is a thought that in dyslexics some areas are under developed or under-equipped for the reading process, thus they compensate through other areas in the brain, trying to get at the sound of the word in other ways. Some scientists think that since written language is relatively new to us, only about 5000 years old, our brains are not hard-wired to grasp it like the spoken language. Accordingly, in a given environment, while speech might come naturally, reading and writing need to be learned.

International Stats:

One of the things that is most interesting to me, is whether there is any connection between the kind of language learned, and dyslexia. In other words: are there languages, which are easier for a dyslexic to learn? Statistics are difficult to discern: Are dyslexics rate lower in some countries because there are different tests? Teaching methods? Awareness? Place of education? Publicity? Or, actually a different language?

According to some there are as many as 30% of people who have dyslexia in the US. There are lower stats of 15-20%, which are still considered pretty high. Most place it between 5-10% for US, often depending also on severity (4% severe; 8.5-10% more manageable).

Here are some numbers for a few other countries:

- ❖ Belgium – 5%
- ❖ Britain – 4%
- ❖ Czech Republic – 2-3%
- ❖ Finland – 10%
- ❖ Greece – 5%
- ❖ Italy – 1.3-5.0%
- ❖ Japan - 6%
- ❖ Nigeria – 11%
- ❖ Poland – 4%
- ❖ Russia – 10%
- ❖ Singapore – 3.3%
- ❖ Slovakia – 1-2%

I have sent e-mails to various sites asking for more information on international stats. This is what I've got from the Davis (Ron Davis is the author of "The Gift of Dyslexia") Dyslexia Association International (dyslexia.com):

"We do not have statistics from other countries. We get a large amount of mail from India, Israel and the Arabic nations from people seeking help with dyslexia, so whatever the percentages, we know that dyslexia is a significant problem in those countries.

However, dyslexia may be a problem that is more likely to arise in countries with a phonetic written language. While the language itself may not be a factor, the manner in which the language is represented in writing could be a crucial issue.

In other words, it is probably harder for dyslexics to learn to read in language that relies on a phonetic alphabet than in a language with a character-based alphabet such as Chinese. Japan uses more than one alphabet and style of writing, so the situation is more complex there”.

The World Dyslexia Network Foundation plans an international conference in York, UK in April 2001, where a research on the type of languages will be presented. The different types of languages sets being investigated include:

- ❖ Transparent (Russian, Spanish, Portuguese, Polish Welsh)
- ❖ Non-transparent (English)
- ❖ Morphophonemic (Chinese)
- ❖ Transparent, agglutinal (Hungarian)
- ❖ Mixed (Japanese)
- ❖ Bilingual (Philippines, London, Leicester)

Treatment:

Probably the most challenging issue around choosing an appropriate treatment method is finding out what causes the dyslexia or reading disorder. It is quite possible that the same symptom (i.e. a significant setback in reading ability) is caused by more than one reason. Hence, the treatment methods should not be viewed as either - or, but rather as appropriate in different cases. As one researcher noted: “Learning to read is like rocket science”. Thus, new researches as well as new findings are constantly in the works. The treatment methods, which I found information about can be divided into three:

1. Diet and medication.
2. Vision (eye) changes.
3. Psychotherapy.
4. Specific reading methods.

1. In a reading disabilities clinic in England a study is being done investigating the efficacy of fatty acid dietary supplement. A similar trial based in a school in Northern Ireland has also been completed. Although these studies have no final data yet, they were described, as “early results are promising”.

They are not the only ones: Dr. Howard Levinson is the founder of the Levinson Medical Center for Learning Disabilities in Great Neck, NY (with branches in London and Hong Kong). His theory is that dyslexia originates in an imbalance in the inner-ear, which transmits messages to the brain. If a given sensory input drifts, the corresponding message to the thinking brain is blurred, reversed, or scrambled, rendering it difficult to remember and/or understand. Moreover, these drifting or blurred imprints are frequently wiped out or erased because they are perceived as faulty. While he therefore agrees that the “thinking brain” will be affected, he suggests that this is only the secondary cause, not the primary and that it is the primary, which needs to be treated. The treatment he offers is that of Specific Smart Drugs and Nutrients For Dyslexics. According to him, when properly administered by physicians, this approach will help 75–85% of treated dyslexics.

Smart Drugs:

The anti-motion-sickness antihistamines have the greatest chance of helping the academic and non-ADD part of the dyslexic syndrome.

The stimulant medications have the greatest chance of helping the ADD part of the dyslexic syndrome.

Depending upon symptoms and test findings, most dyslexics would benefit from specific combinations of the above two groups.

Smart Nutrients — Inner-Ear (CVS) and/or Neurotransmitter Enhancers:

Because nutrients add to the overall chance and quality of an improvement in dyslexia, he mentions a few specific substances, which were found helpful. They certainly have no negatives — allergies aside. And so some help is infinitely better than none.

A Starting Sample:

Ginger Root, Multivitamins and Minerals, Lecithin, Ginkgo, DMAE, Unsaturated Long Chain Polyunsaturated fatty acids (LCP's) — DHA and AA, Mentalin.

2. As was noted earlier, some have chosen to treat dyslexia as a vision problem.

While it is not longer believed that dyslexics have a problem “seeing” per-se, according to some researchers, dyslexics benefit from wearing an eye patch and doing various exercises to strengthen their eye muscles. Recently, the use of tinted lenses was recognized to be helpful in minimizing or compensating for the various reading symptoms characterizing dyslexia.

3. According to some psychoanalysts, psychiatrists, and related professionals believed child-rearing and emotional disturbances were primarily responsible for many learning, emotional, and behavioral symptoms that characterized dyslexics. Consequently, a host of very specific subtheories and psychological mechanisms were formulated in order to account for each of the many dyslexic symptoms. Invariably, psychotherapy was advised in an effort to cure or alleviate the emotional factors deemed primarily responsible for the dyslexic symptoms. It must be noted that the fact that psychotherapy often alleviates a dyslexic's symptoms does not prove that psychological factors caused the disturbance. Indeed, psychotherapy often alleviates the stress and secondary feelings of stupidity, frustration, and helplessness, factors that

further complicate and destabilize an already impaired fine-tuning system. In other words, the surface psychological and behavioral symptoms are secondary reactions to the dyslexic's inability to function and compete normally.

4. Which reading method works best? The answer is a lot more complicated than the overly simplified “reading wars” between those holding on to the whole language method and those claiming the phonics path to literacy. The often highly politicized debate distracts from the real issue, that both methods are failing too many kids. Instead, experts say, reading needs to be more taught in a carefully sequenced way that includes pieces of both these methods, plus much more. It must be based on solid research and geared to the needs of individual kids. No single strategy will work for everyone who is having trouble. The right method depends on the severity of the problem, and the age at which the student is diagnosed.

Everyone agrees that early intervention is the most effective. Researchers suspect there is a window between the ages of 5-7 when the underlying skills of reading are most easily learned. What might be a 30 minutes a day help at the kindergarten level, might turn into a 2 hours a day by the time the student is 8-9 years old.

One program that has been proved effective is the Lindamood-Bell phoneme Sequencing program (LiPS). The program makes students identify how sounds feel while saying them. Consonants are given names according to the motions involved in making them. For example, “P” is a “lip popper” because the lips start together and then, come apart. This gives students another way to recognize letter sounds. One reason this may work is it helps dyslexics get past that initial obstacle, their inability to break words down. They may not be able to distinguish the constituent sounds in a word, but they can feel their mouths making distinct and separate motions. Researchers are now in turn, trying to find out whether this kind of training can produce changes in the brains of dyslexics.

So the first step is, what researchers call, developing “phoneme awareness”, breaking words down into sounds, which is crucial to reading. The second key ingredient is learning the letters that go with those sounds – or phonics. The final essential is constant practice, using interesting stories and games (such as pig-Latin) to develop fluency, vocabulary and comprehension. And while these are elements of any good reading program, the difference is in the increased intensity and explicitness for dyslexics. Of course, a great tool is anything written by dr. Seuss, because of rhyming and word play in the text.

Ron Davis is the author of “The Gift of Dyslexia” and head of Ron Davis’ Dyslexia Correction Center near San Francisco, CA, which has branches and counselors worldwide. He offers a different method: The first step in the Davis program is learning to turn off disorientation to focus the perceptions. In his book he explains an easily learned mental exercise that allows dyslexics to accurately recognize printed symbols. Davis offers a stress-free way for dyslexics to learn the basics of written language. Students model symbols and word concepts in clay – a multi sensory process that enables them to exercise their

creativity. In addition, one can find a 10 page guide on his web site, intended for teachers in the conventional classroom, who need to accommodate dyslexic students.

Above all treatment methods, the one thing we must remember is that what these children need most is the emotional support to stay positive about school. Understanding different intelligences, the question regarding a certain student's ability to read, has to be only a question of methods taught and time taken, not of whether or not anyone can eventually read at all. Interestingly, in all I read, there are no findings on people who cannot learn to read at all!

Dyslexia: The Gift It Is:

Some note that the dyslexia could be viewed as a gift. Accordingly, dyslexia is caused by the successful use of visual thinking skills at an early age. This "gift" (English\German...) works well for recognizing real life objects, but not printed symbols, such as alphabet letters and words. Disorientation is turned on by confusion, so the stress and invalidation typically encountered during the early school years compound the problem. Mental tricks are adopted to give the appearance of learning. Loss of self-esteem causes many dyslexics to adopt ingenious methods to hide their learning disability.

Aside from very developed visual thinking, dyslexics tend to have multi-dimensional thinking (using all the senses). This kind of thinking takes place faster than verbal thinking. Dyslexics also tend to be more curious, creative and intuitive than average. They tend to be highly aware of the environment, inventive and good at real world tasks. ((Noam: solution to 7-parts-play in a class of 15; design; legos...))

Their special mode of thought also produces the gift of mastery: once they have learned something experientially, they understand it on such a deep level that they know how to do things intuitively without thinking about it.

This explains the extensive list of talented people and more, which we introduced at first. People who were – and are – able to think outside of the box.

In conclusion, we can note that, as it has been said before, the hardest years for the dyslexic person are in school, and the greatest challenge is not actually the reading and spelling, but the potentially shattered self esteem. While they will not out-grow dyslexia, if they "survive" school, they'll probably grow up and find a special niche, which will satisfy them and enlighten the life of us all.