

dYslexia

parents, this is for You!

intelligence and achievement

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these slides are compiled based on my interpretation of the original (2011) edition of THE DYSLEXIC ADVANTAGE, Unlocking the Hidden Potential of the Dyslexic Brain



two halves make a whole



Most people who understand the brain may know:

- Left brain hemisphere- fine detail processing, component pieces, preciseness
- Right brain hemisphere- large-scale processing, global figures, gist, perception

The authors claim: Neurodiversity

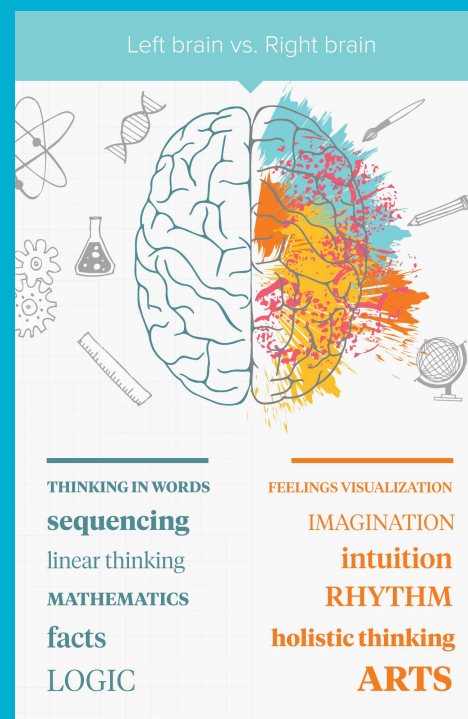
“...certain talents are as much a part of dyslexic processing as the better-known challenges- the strengths and the challenges are simply two sides of the same neurological coin [pg. 17].”

shifting to the left.

Many people that have been studying the dyslexic brain should come to know:

- Intriguingly, Dyslexia is linked to an *absence* of the 'leftward shift' for fine-detail language skills
- Intensive training will support this shift
- We see this in the example of: untrained vs. trained music listeners

'Researchers have shown that untrained music listeners process melodies primarily with their right hemisphere, so they can grasp the large-scale features (or gist) of the melody. By contrast, expert music listeners process music more heavily with their left hemisphere, because they focus more on the fine details and technical aspects of the performance [pg. 34].'



(Eide & Eide, 2011)

— scientifically speaking, what does the cortex — of a dyslexic brain look like?

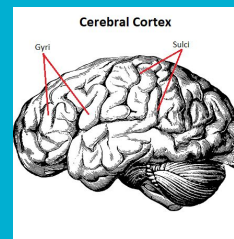
- Dr. Manuel Casanova has spent two decades studying cell-to-cell connections linking brain neurons:

Dr. Casanova has identified **1 KEY FEATURE** that brains with a predisposition to dyslexia and “right-brain” cognitive styles have: *Unusually broad spacing between functional clusters of neurons in the brain’s cortex*

- **What are the features of the cortex of the brain?**

Cortex is a thin sheet of cells that coats much of the brain’s surface

Cells are organized into vertical minicoloms and connected by long axons “cables”



Enormous difference in how the circuits function, **AXON LENGTH MATCHES LEFT-RIGHT BRAIN RESEARCH**

Widely spaced- *dyslexic brain*, excel at recognizing large features of concepts, high-level cognitive skills

Tightly spaced- *autistic brain*, high-level of skill in detailed oriented tasks- like extracting fine features

(Eide & Eide, 2011)

dYslexic “processing style”

MIND

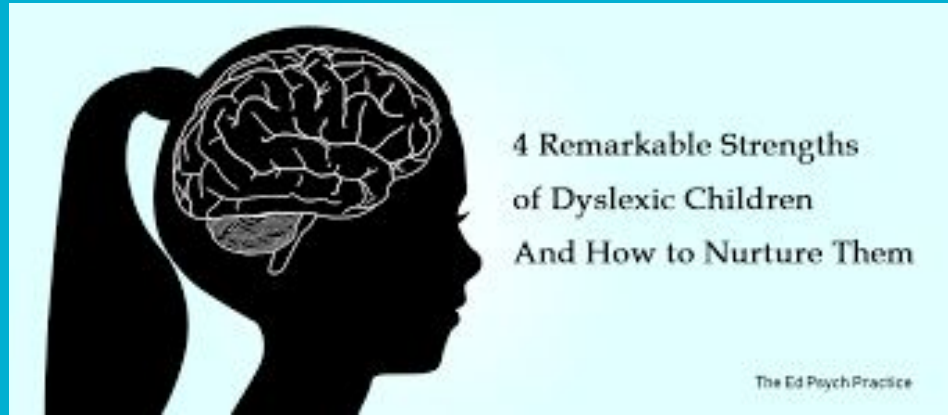
There are 4 specific dyslexic advantage groups are based on processing styles: **MIND**

M-aterial reasoning

I-nterconnected reasoning

N-arrative reasoning

D-ynamic reasoning



The top 19 home-run hitters of all time have **ONE MORE THING IN COMMON**, they are among the top one hundred all-time “leaders” in striking out while at bat [pg. 17-18].

(Eide & Eide, 2011)

M-Strengths **EINSTEIN** *b/p b/q d/p 6/9*

Material Reasoning- Drawn to engage in highly spatial tasks, building projects, accurately display spatial information, manipulation of mental images

(brain's hippocampus)



(Eide & Eide, 2011)

I-Strengths SLOW/INACCURATE READERS

persecute/prosecute leaf/feather

Interconnected Reasoning- integrated conceptual matrix
togetherness or *pattern detection*

1. Detect relationships between different objects
2. Shift perspectives and approaches
3. Global reasoning; field guides



(Eide & Eide, 2011)

N-Strengths HATE SCHOOL love picture books

Narrative Reasoning- structure of experience

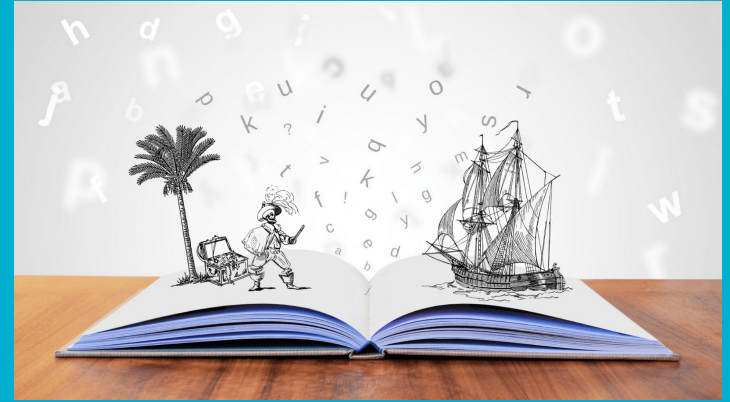
Pattern completion is a process that unites

divergent things. creative scene construction,

episodic or personal memory- the love, the rhythm

and flow of languages, rich in atmosphere and sensory detail

“I don’t see the letters of words, I see the shapes and hear them.” Anne Rice,
author of *Interview with the Vampire* (brain’s hippocampus)



(Eide & Eide, 2011)

D-Strengths NO ROTE MEMORY- Are you — goofing off?



Dynamic Reasoning- accurately predict past/future with episodic simulation, Tries to always group it/ sort it/ arrange it WITH NO PRODUCT/OUTPUT “easier to code than decode” holistic interpreter, powerful 3-D imagery, Portray Backwards Process to succeed, visual hyperactive mind, taught best through interaction



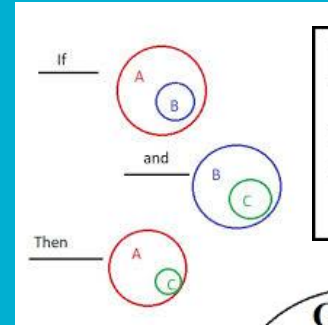
(Eide & Eide, 2011)

Syllogisms- performance on the evaluation

— take the test

What type of questioning provokes visual imagery?

- Some shapes are circles, all circles are red, how many shapes are red?
- Some snowboarders are jugglers, all horsewomen are snowboarders, how many horsewomen are jugglers?

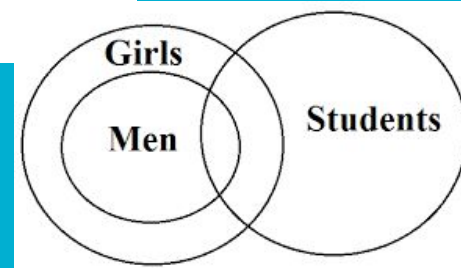


Law of Syllogism Example

Statement 1: If a student studies, they will get an A.

Statement 2: If a student gets an A, they will be happy.

Conclusion: If a student studies, they will be happy.



When the visual imagery (red) is directly useful for solving problems, will the item support the dyslexic thinker. All other visual details actually swamp the working memory and thus the working memory hinders the verbal reasoning. (M-material reasoning)

(Eide & Eide, 2011)

Intentionally Ambiguous

The chickens are too hot to eat.

I saw her duck.

Please wait for the hostess to be seated.

Students hate annoying professors.

They hit the man with the cane.

I said I would see you on Tuesday.

**THE ABILITY OF INTERPRETING
ALTERNATE MEANINGS is BENEFICIAL
FOR interpreting all types of COMPLEX
MESSAGES**

*jokes, poems, stories, conversations,
figurative language
(similes/metaphors)*

“I love analogies. They are my bread and butter.” -Douglas Merrill, former Google CIO, founder of Zest AI

(Eide & Eide, 2011)

hello Google 37,000 links to “Dyslexic Entrepreneur

- Remarkable sense of vision
- Confident and persistent attitude
- Ability to ask for and engage the help of others
- Excellent oral communication
- Use intuition a lot

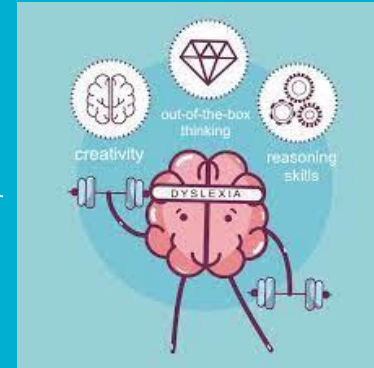
“Factors like emotional well-being and positive mood also seem to play an especially large role in supporting successful insights, and they work by enhancing the relaxation phase. This is why many great insights seem to occur in showers, baths, beds, or even on beaches or when gazing out windows or staring emptily in space.”

(Eide & Eide, 2011)

dYslexic “processing style” **MIND**

— an advantaged difference in the brain

- Dyslexia is... brain organization and information processing
- Dyslexia is... being remarkably skilled
- Dyslexia is... the most eminent and creative persons
- Dyslexia is... the unusually good landscaper, mechanic, electrician, orthodontist
- Dyslexia is... the individual awareness of your own mental desk space
- Dyslexia is... spatial ability
- Dyslexia is... impressive verbal strengths
- Dyslexia is... a sensory-immersive sound, color, touch sensation, emotion experience
- Dyslexia is... a bright and precocious mind



There are 4 specific dyslexic advantage groups are based on processing styles: **MIND**

M-aterial reasoning **I**-nterconnected reasoning **N**-arrative reasoning **D**-ynamic reasoning

pasghetti/spaghetti

- *Stealth dyslexia*
- Small number of variations
- 44 phonemes
- Phonological processing:

“Keeps things in mind” working memory- phonological loop-executive functioning

Software program with too little keyboard memory- left hemisphere

- Procedural learning:

Syntax, pragmatics, explicit learning-usage of conscious compensation

- Focused attention + Active working memory = *ROUTINE ERROR*
- Cerebellum
- Greater mindfulness, need to innovate, no clear procedural learning challenges



(Eide & Eide, 2011)

Reference

Eide, B. Eide, F., (2011). *The Dyslexic Advantage, Unlocking the Hidden Potential of the Dyslexic Brain*. First Plume Printing.