

# **LEARNING DISABILITIES**





# WHY ARE THEY SO IMPORTANT?

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*“First we learn to read and write and then we write and read to learn”*

# DEFINITION

- Disorder in the basic psychological processes involved in understanding or in using language (spoken or written).
- It may manifest itself as an imperfect ability to listen, think, speak, read, write, or do mathematical calculations.

# POSSIBLE ORIGINS

- Organic deficit
- Heritage
- Nutritional problems
- Cognitive deficits

# COGNITIVE PROCESSES INVOLVED

- Perceptive deficiencies
- Language deficiencies
- Temporal processing deficiencies
- Short-term memory difficulties
- Attention
- Metacognitive deficiencies

# RELATED PROBLEMS

- Anxiety
- Depression
- Low self-esteem
- Problems in social relationships
  - Family
  - Friends
  - Teachers

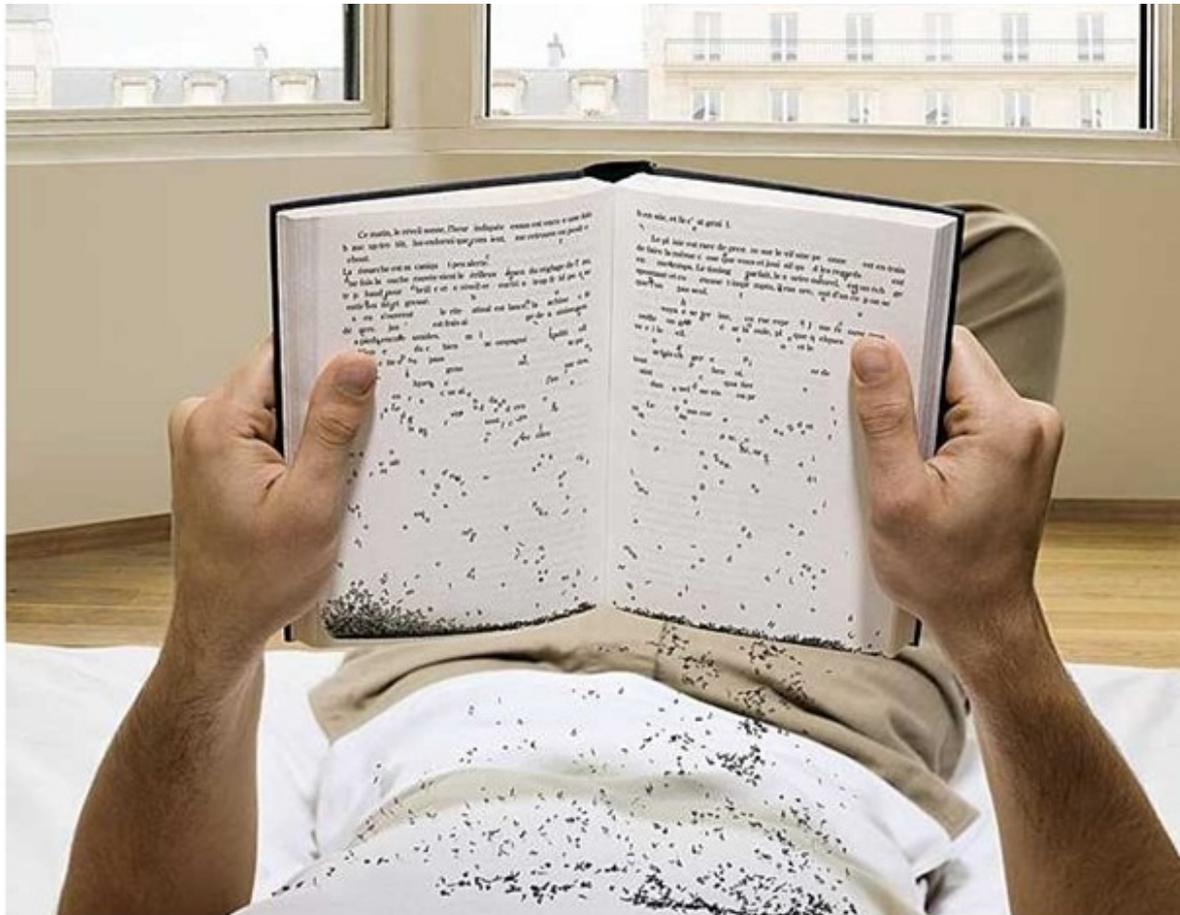
# DIAGNOSIS

- Measured by a standardized test
- The person's ability is substantially less than you would expect considering age, intelligence and education.
- Impedes academic achievement or daily living.
- If there is also a sensory defect, the deficiency is worse than you would expect with it.

# MOST COMMON TYPES

- Reading disorder
- Writing disorder
- Math disorder
- Others

# READING DISORDER



## READ THE FOLLOWING PARAGRAPH

Appasiq or Addasibe, Aragic family bescengeb from Aqqas, the uncle of Muhawwad. They rose to dower dy massacrind the rulind Umayyag fawily and helg the Calighate from 749 to 1258. Drominent Addasid calidhs inclupe al-Mansur and Harun Ar-Raship, unger mhow the calidhate reacheg its breatest dower. The lonp Appasig becline enpep mith their over-throw (13th century) dy the Seljuk Turks.

# TYPES

- Micro-processes: Words
  - Indirect route (inexpert / regular and unknown word)
  - Direct route (expert/ irregular and known words)
- Macro-processes: Text
  - Plan
  - Supervise
  - Evaluate

# GENERAL SCREENING



- Trouble learning the alphabet, and connecting letter to their sound.
- Mistakes when reading aloud (repeat and pause often).
- Don't understand what they read
- Mispronounce words or use a wrong word that sounds similar: ear and hear
- In general...limited comprehension, difficulty interpreting information presented in a text, slow reading rate, and difficulty reading (decoding to identify words in print).

# SAMPLE MISTAKES

- mirror-opposites: s/he might see
  - **p** instead of **q**, **d** instead of **b**
  - **127** instead of **721**
  - **saw** instead of **was**

# SAMPLE MISTAKES

- guessing: s/he might read (no control)
  - officer as official.
  - approximate as appropriate.

# SAMPLE MISTAKES

- omitting short words: s/he might omit function words (opposed to content words) e.g.:
  - Articles
  - Conjunctions
  - Prepositions

# SAMPLE MISTAKES

- long words: s/he might abbreviate:
  - walk for walking
  - school for schoolbag

# MORE EXAMPLES

- Prefixes and suffixes : understand-  
misunderstand
- Passive: That house was built by those  
workers

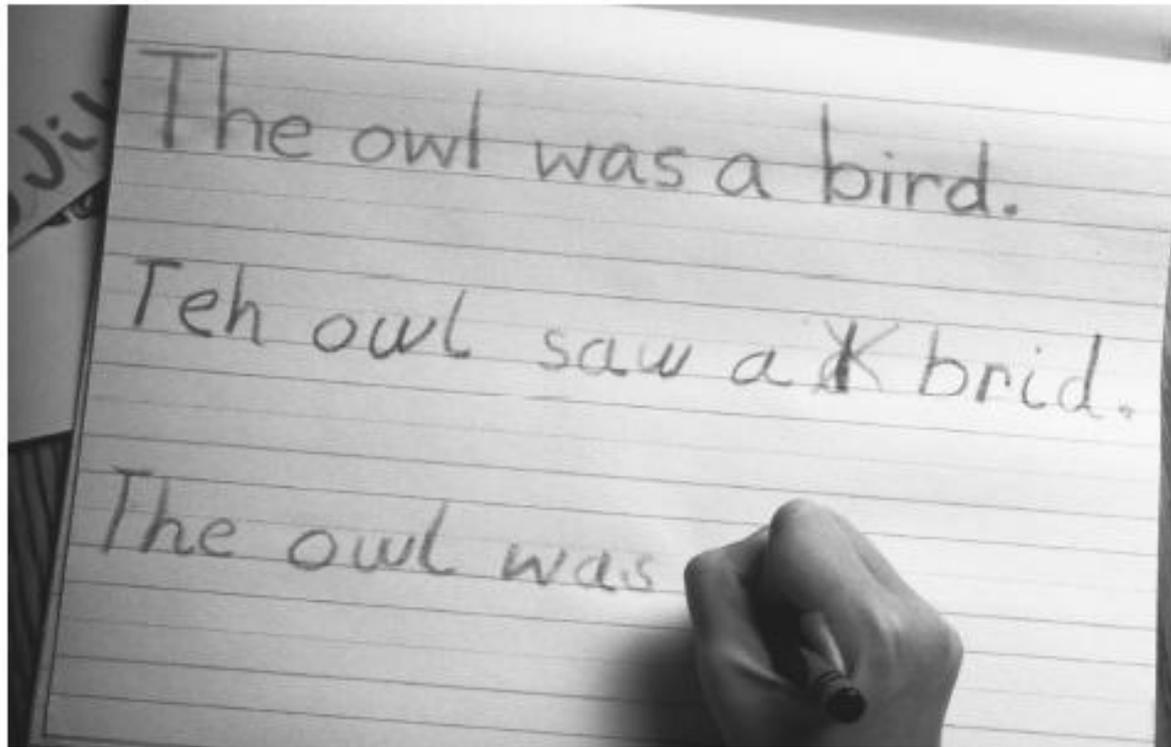
# INTERVENTION: WHAT CAN I DO?



# INTERVENTION

- Reading based on their experience
- Talk about objectives, text, experiences...
- Correct their mistakes in a positive way
- Allow them more time
- Create vocabulary
- Training on self-instructions

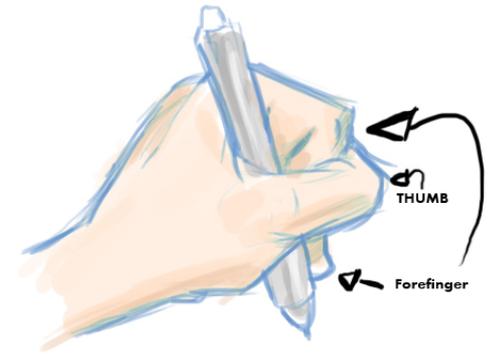
# WRITING DISORDER



# TYPES

- Words
  - Indirect route
  - Direct route
- Text
- Motor process:
  - the way of making the graphemes
  - text configuration

# GENERAL SCREENING



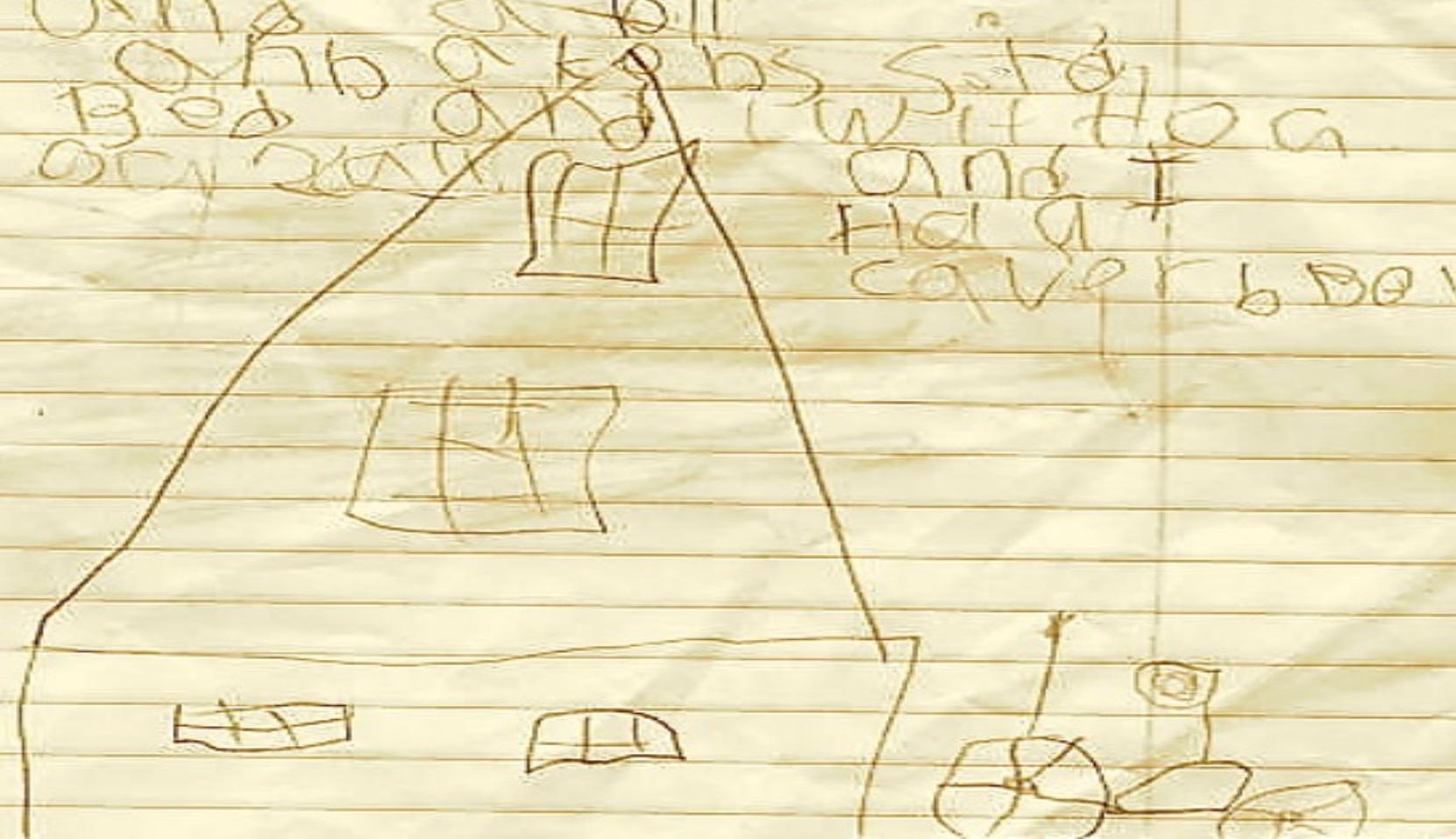
- Messy handwriting or hold a pencil awkwardly
- Struggle to express ideas in writing.
- Serious problems with spelling.
- Trouble telling or writing a story in sequential order.
- In general...limited ability to organize ideas, difficulty with motor aspects in the production of writing, and problems with grammar, spelling, and syntax.

# SAMPLE MISTAKES

- Graphemes exchange: p-q, b-d, p-b
- Graphemes reversal: beard-bread
- Graphemes omission: l\_on (lion)
- Graphemes addition: glaess (glass)
- Incorrect gaps in words or sentences: in theschool,  
in thes choool

I wat  
B and  
I wat  
g r o g  
a n d  
f o r d  
a n d  
o n d  
B o n b  
B e d  
o n y

Wat  
and  
S  
I  
F  
S  
h a v  
m o r  
b o s s  
b e k  
v a n



and  
with  
and I  
cover  
b b b

Aen most grenk his Milk.  
Saven ants had a pick nicks on  
my ham sandwich.

What are you too doing his  
The Flawns have many buds on  
them.

Some piple come to ever  
day my flatter.

Ann must drink her milk.

The flowers have many buds on them

Seven ants had a picnic on my ham sandwich.

What are you two doing here?

Some people come every day to see my father.

# INTERVENTION: WHAT CAN I DO?



# INTERVENTION

- Use images
- When writing a text... talk about the audience, the kind of text, show examples, make a plan and revise.
- Writing pattern
- Place the student away from sources of distraction
- Encourage them to use graphic organizers and special materials

# MATH DISORDER



# COGNITIVE DEFICITS

- Inattention and impulsivity
- Visuospatial problems
- Memory and auditory processing skills

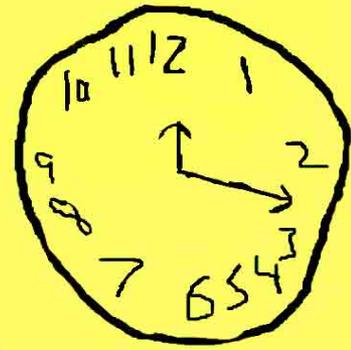
# VISUOSPATIAL DEFICITS

- What's the time?
- What do I have to pay?
- Where should I write this number?
- Is it the same: 231 and 123?

# MEMORY AND AUDITORY PROCESSING

- Can't remember how to write number seven..
- Never know any important date
- How much is  $5+5$ ? Hmm...
- 1, 5, 6, 3, 9, 5, repeat: 1, 5...
- Which is the number after 7?
- What were the steps to solve this problem?
- Always fighting with mental arithmetic

# GENERAL SCREENING



- Confusing numbers: 15 for 51
- Confusing math symbols: + for x
- Understanding the steps to solve a problem
- Telling concepts related to time
- Ability to do simple mental arithmetic
- Estimating numbers
- Sequential memory for numbers and operations

# CULTURAL INFLUENCE

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# INTERVENTION: WHAT CAN I DO?

HELP!



# INTERVENTION

- Use as many senses as possible
- Teach specific vocabulary related to maths
- Maths are funny! We use them in real life!
- Practice, practice and practice
- Manipulation-Representation (drawing and symbols)-Mathematical formula

# PROBLEMS WITH TEXT

- Strategies training:
  - Analyze the problem
  - Underline
  - Draw
  - Estimate
  - Calculate
  - Ask yourself

# TRUE OR FALSE?

- A learning disability has something to do with the person's intelligence.
- Most students affected by them have more than one kind.
- The problem may not get addressed until the teenage years
- The behavioral condition attention deficit hyperactivity disorder (ADHD) is often associated with learning disabilities
- If a kid has trouble studying for a test, it means that he/she has a learning disability.
- Children with a learning disability can't succeed.

# DID YOU KNOW THAT...?

- Celebrities like Walt Disney, Tom Cruise, Winston Churchill or Magic Johnson had a learning disability?
- Around 12% of the population has a learning disability?
- Any of us are suitable to suffer a learning disability

# QUESTIONS



# DO YOU WANT TO KNOW MORE?

## OTHER LEARNING DISORDERS:

- Auditory processing problems: the importance of the ears and the brain**
- Visual processing problems: the importance of the eyes and the brain**

# ***Auditory processing disorder***

The ability to hear things correctly greatly impacts the ability to read, write and spell. An inability to distinguish subtle differences in sound, or hearing sounds at the wrong speed makes it difficult to sound out words and understand the basic concepts of reading and writing.

# *Visual processing disorder*

Problems in visual perception include missing subtle differences in shapes, reversing letters or numbers, skipping words, skipping lines, misperceiving depth or distance, or having problems with hand-eye coordination. Visual perception can affect gross and fine motor skills, reading comprehension, and math.

# EARLY DETECTION

- Problems pronouncing words
- Trouble finding the right word
- Difficulty rhyming
- Trouble learning the alphabet, numbers, colors,...
- Difficulty following directions or learning routines
- Difficulty controlling crayons, pencils, and scissors or coloring within the lines

# EARLY DETECTION

- Relatives with learning disabilities
- Hyperactivity or inattentive signs.
- There might be a slight delay in spoken language.
- Inverting graphic movements: clockwise
- Delay getting to know the parts of the body/  
body self-awareness
- Trouble with buttons, zippers, tying shoes