

# Learning Disabilities



Strategies for the  
classroom

# What is a Learning Disability



A learning disability is a neurological condition that interferes with a person's ability to store, process or produce information.

# Common Disabilities



Dyslexia

Dyscalculia

Dysgraphia

# Definitions



- **Dyslexia**– is a language-based disability in which a person has trouble with specific language skills, particularly reading.
- **Dyscalculia**– is a term referring to a wide range of life-long learning disabilities involving math. There is no one single form of this math disability.
- **Dysgraphia**– is a processing disorder that affects one's writing abilities. It can reveal itself in several ways such as difficulties with spelling, poor handwriting, and difficulty getting thoughts transferred onto paper.



A learning disability can't be cured or fixed; it is a lifelong issue. With the right support and intervention, however, children with learning disabilities can succeed in school and in life.

# Recognizing Dyslexia



- Problems processing and understanding what he or she hears.
- Difficulty comprehending rapid instructions.
- Trouble following more than one command at a time.
- Problems remembering the sequence of things.
- Difficulty spelling.

# Recognizing Dyslexia



- Difficulty seeing (and occasionally hearing) similarities and differences in letters and words.
- An inability to sound out the pronunciation of an unfamiliar word.
- Seeing letters or words in reverse ("b" for "d" or "saw" for "was," for example) — this is common in young children, but may be more pronounced in children with dyslexia.

# Dyslexia Difficulties



**Decoding Difficulties:** When a person can not hear or has trouble differentiating phonemes within a word.

**Comprehension Difficulties:** When a person has difficulty understanding and remembering what he/she has just read.

**Retention Difficulties:** When a person has difficulty summarizing what he/she read and difficulty relating it to prior experiences.





How  
does  
Dyslexia  
feel?

# Simulation



Please try to read the following passage at your usual reading speed. Take a couple of minutes to comprehend what is being said then try to answer the questions.

"The UMIST Enabling Advisor, who is not an academic member of staff of the Department of Computation will provide non-specific training sessions for a few staff to disable them to develop course materials that are not structured and multi-sensory, that will lessen the learning opportunities for few students. Neither Disability Support services provide dyslexia-specific expertise and training for secondary members of staff, but staff from the Access Summer Center won't provide training and support."

## **Questions**

What other role does the Disability Advisor at UMIST have?

What types of staff will the Disability Support services provide training for?

## **The correct answers are:**

The Disability Advisor is also an academic member of staff.

The Disability Support services will provide training to secondary staff.



## **Reflection:**

Did you get the questions correct? Are you confused now? This is because we have altered the meaning of the passage to illustrate the fact that some dyslexic students perceive the meaning of a word or phrase as its exact opposite.

## **Here is the original passage:**

"The UMIST Disability Advisor, who is also an academic member of staff in the Department of Computation at UMIST will provide specific training sessions for staff to enable them to develop course materials that are well structured and multi-sensory, that will enhance the learning opportunities for all students. Both Disability Support services will provide dyslexia-specific expertise and training for secondary members of staff, and staff from the Access Summit Centre will provide training and support."

# Strategies in the Classroom



Strategies can be used in:

Reading

Spelling

Writing

Testing

Homework

Giving Instructions

Technology

The Classroom

# Recognizing Dyscalculia



- Poor understanding of the signs  $+$ ,  $-$ ,  $\div$ , and  $\times$
- Difficulty performing math skills or to understand the words “plus,” “add,” etc.
- Inability to comprehend financial planning or budgeting, sometimes even at a basic level, for example, estimating the cost of the items in a shopping basket or balancing a checkbook.
- Poor mental arithmetic skills

# Recognizing Dyscalculia



- Difficulty with times tables.
- May reverse or transpose numbers, for example, 63 for 36 or 785 for 875.
- Difficulty with conceptualizing time and judging the passing of time.
- Difficulty with everyday tasks like counting change.
- Difficulty keeping score during games.

# Recognizing Dyscalculia



- Inability to grasp and remember mathematical concepts, rules, formula, and sequences.
- May have a poor sense of direction, even with a compass.
- May have difficulty mentally estimating the measurement of an object for distance. (10 or 20 ft. away).



# Dyscalculia Difficulties



**Output Difficulties:** A person may experience difficulties in being able to recall basic facts, difficulty in handwriting and deciphering numbers written down, or difficulty maintaining precision while working on math problems.

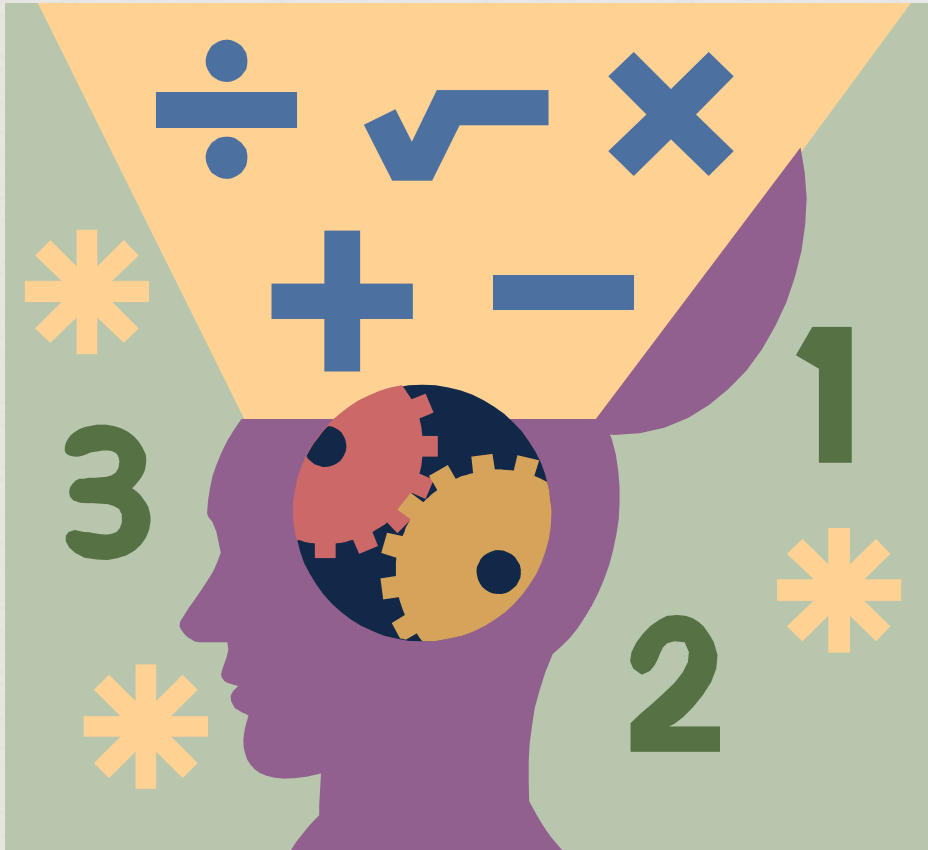
**Visual Spatial Difficulties:** A person may feel overloaded when faced with a complete page of math problems, difficulty copying problems correctly, difficulty in geometric shapes and the visual changes as they are moved in space.

# Dyscalculia Difficulties



**Organization Difficulties:** A person may have difficulty sequencing steps to solve a problem, difficulties solving word problems that rely on inferences, or be unable to tell if a result is reasonable.

**Working Memory Difficulties:** Active working memory is like RAM in a computer, or short-term memory, for easy access to the things you are currently working on. Active working memory allows people to hold different parts of a math problem in their head while continuing to solve the problem.



How does  
Dyscalculia  
feel?

# Strategies in the Classroom



Dyscalculia can occur in any area of mathematics. It is very individualized, affecting one child in his ability to add numbers and another child in his ability to read the numbers correctly or put them in order. The disability of dyscalculia is often as individual as the child himself.

# Recognizing Dysgraphia

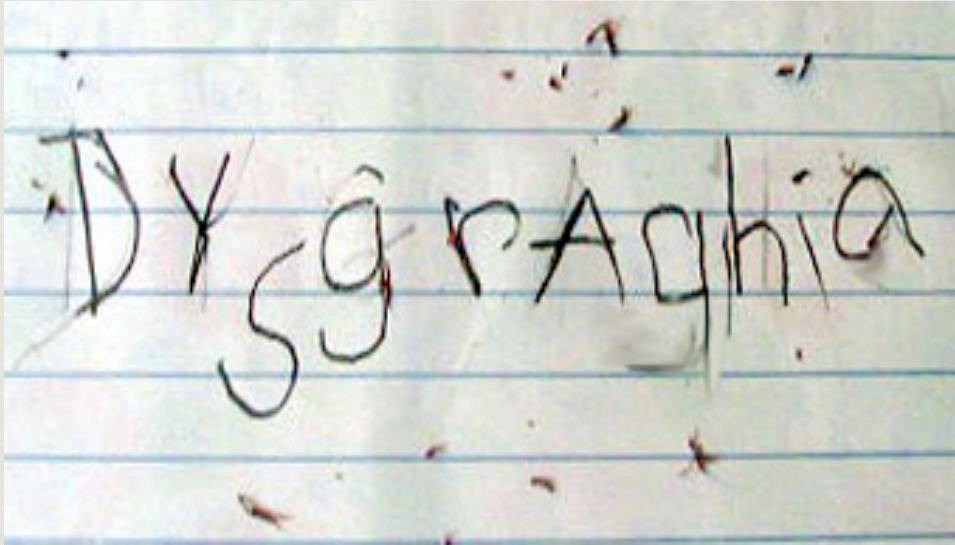


- Illegible writing
- Style inconsistencies
- Spelling challenges
- Incorrect usage of words
- Wrist and hand position

# Dysgraphia Difficulties



- **Higher-Order Cognition Problem:** Trouble generating and/or organizing ideas. Difficulty with critical thinking skills and/or creative expression.
- **Graphomotor Problem:** Trouble grasping a pencil because of difficulty with muscle coordination in one's fingers which causes problems with the formation of letters and makes writing a very slow and laborious process.
- **Automatization Problem:** Difficulty remembering all the rules of spelling and grammar, and the formation of letters which gets in the way of creativity and organizing one's thoughts and ideas.

A photograph of a piece of lined paper with the word "Dysgraphia" written in black ink. The handwriting is cursive and somewhat messy, with some letters overlapping and the lines of the paper being slightly blurred. The word is written across the middle of the page.

What is  
Dysgraphia  
like?

# Strategies in the Classroom



**Accommodate** -- reduce the impact that writing has on learning or expressing knowledge -- without substantially changing the process or the product.

**Modify** -- change the assignments or expectations to meet the student's individual needs for learning

**Remediate** - provide instruction and opportunity for improving handwriting





“Continuous effort – not strength or intelligence  
– is the key to unlocking your potential.”

-Winston Churchill, British Prime Minister

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