

# Forgetful Learners

Kendra is a hardworking 7 year old student who is beloved by her teachers and parents. She's polite and attentive and enjoys be a teacher's helper, but she struggles with learning all sorts of subjects and has to relearn things again and again.

Her parent say that Kendra seems to remember some things very very well – it's the school things that don't seem to stick.



Natural Storyteller – Could remember all the gifts given at a party – Couldn't remember school things

# Forgetful Learners

- Testing her memory of a sequence of numbers, she struggled to remember 3 in the correct order
- I asked her to visualize. She closed her eyes and couldn't remember
- Glittering letters dancing off a stage
- Prompted her to keep the letters on the stage in her mind – sequence up to 5! Good performance for her age

You can have a memory ability – but not yet know how to use it

## Looking for Strengths in Non-Procedural Memory

### EPISODIC MEMORY (Personal Memory)

- direct or physical experiences
- something funny, novel, triggered emotions
- something you found personally interesting
- story that you could relate to
- examples in real life
- events, trips, visitors to class
- interesting pictures and videos
- imaginary journeys, visualization

### SEMANTIC MEMORY (Impersonal Memory)

- fact recall – like math facts, state capitals
- knowledge about the world
- list or rote learning
- vocabulary
- built through repetition and rehearsal

For most dyslexics, personal memory seems stronger than semantic or impersonal memory.

## 3 Types of Long Term Memory

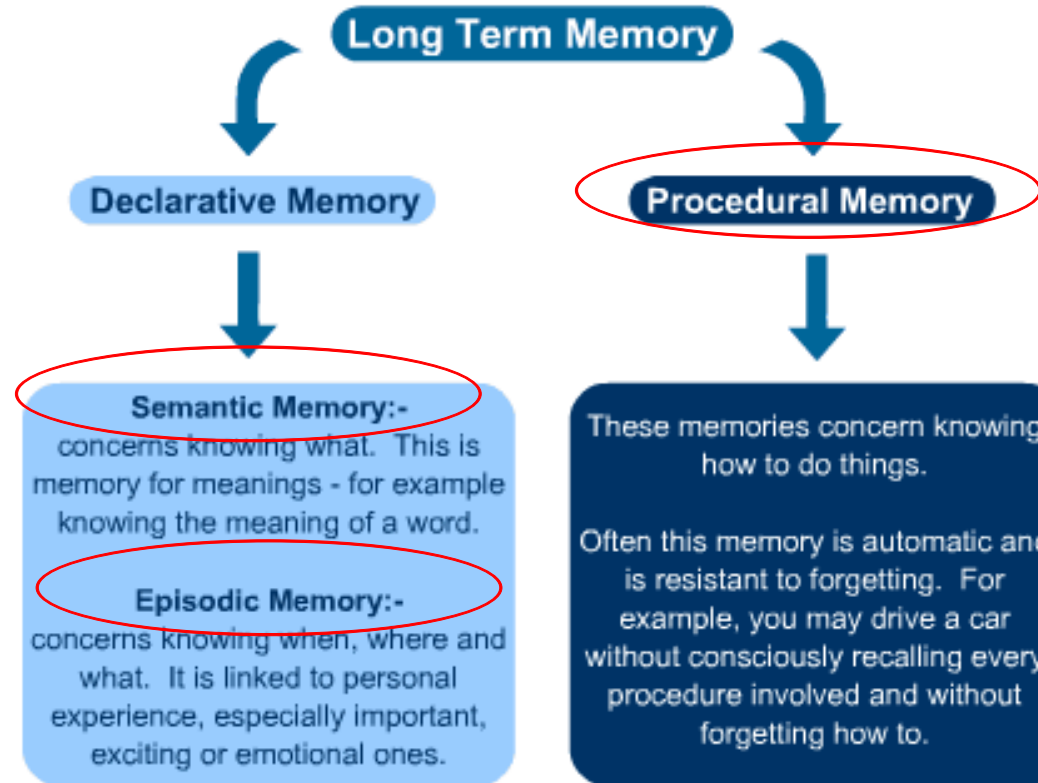
### EPISODIC MEMORY

is memory from episodes or **personal** experiences



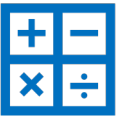
### SEMANTIC MEMORY

is memory for **impersonal** facts, concepts, verbal knowledge, and knowledge about the world.



### PROCEDURAL MEMORY

is memory for skilled actions and tasks that can be done “without thinking”



Dyslexic students may be weak in semantic and procedural memory, meaning the only way they can remember is if they use **PERSONAL MEMORY STRATEGIES**.

## How to Help with Remembering



### SEMANTIC MEMORY

is memory for  
**impersonal** facts,  
concepts, verbal  
knowledge, and  
knowledge about the  
world.



Convert this



### EPISODIC MEMORY

is memory from  
episodes or  
**personal**  
experiences

to this

## HOW TO HELP: Personal Memory and Multisensory Learning



Zoo Phonics

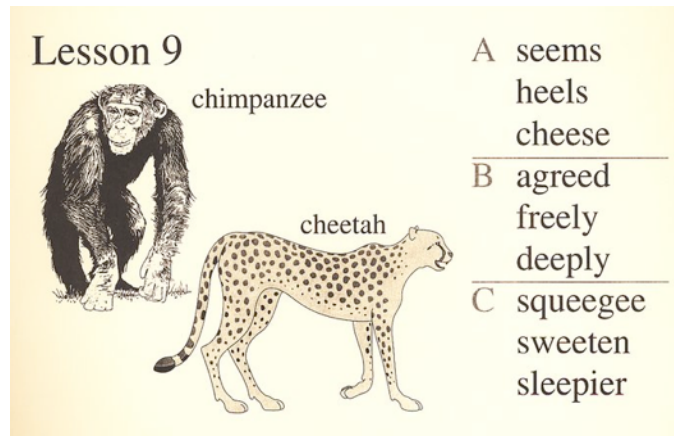
- Strong Novelty and Story Memory
- Personalize, Associations, Make a Story
- Dramatize – Act out  
(physical experience)
- Translate rote impersonal  
data into personal story

“The only way I could finally keep 6 & 9 separate was to give them different personalities...” – dyslexic teen

## HOW TO HELP: Personal Memory and Multisensory Learning

“You mean everyone doesn’t have to sing the ABC song?”

– Harvard MBA adult dyslexic



Long Division

Does  
McDonald's  
Sell  
Burgers?



Phonetic Zoo - Group Phonograms  
Musical Jingles

(Divide, Multiply, Subtract,  
Bring Down)

## HOW TO HELP: Personal Memory and Multisensory Learning Stories + Pictures



Students with better verbal memories may prefer the verbal mnemonics.

Blue letters use eel ink!

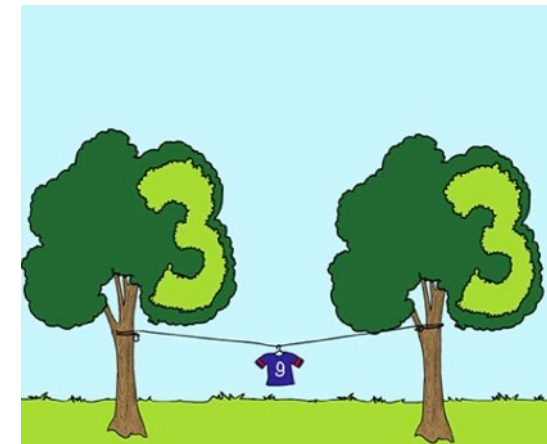
Spend Time Distinguishing Similar Words  
Visual mnemonics and acronyms for Homonyms

## HOW TO HELP: Personal Memory and Multisensory Learning

“The way I got through college was to study with my roommate. I couldn’t keep up with the reading – but if I studied with her before the exam, later I would remember everything she said...”

- adult dyslexic mom

- Doodling Notes
- Reciting Notes in a Cartoon Voice
- Standing on a Chair
- Putting Posters Around a Room
- Difference in position of Apostrophe – signs on a stuffed animal



$3 \times 3 = 9$  (tree x tree = line)  
Multiplication.com

## HOW TO HELP: Personal Memory and Multisensory Learning

### EPISODIC MEMORY (Personal Memory)

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[Click video to watch.](#)

Dr. Blake Charlton only learned to read fluently at the age of 13. He went on to graduate summa from Yale University and become a cardiologist as well as an author of several fantasy books. In the video he shares how he learned the Periodic Table by turning them into characters that interacted with each other. Narrative Intelligence is one of the dyslexic MIND strengths that we described in our book, *The Dyslexic Advantage*.

## HOW TO HELP: Personal Memory and Multisensory Learning



### Personal Memory Champion – Dominic O'Brien

- Failed most of his exams and couldn't concentrate
- Dyslexia and ADD
- At the age of 30, got interested in memory techniques
- 8x World Memory Champion
- **Strategies: Story, Number Shapes, Linking, Journey**

You don't always have to craft a physical experiences to stimulate personal memory. Making up stories and stimulating images can vividly activate episodic memory.

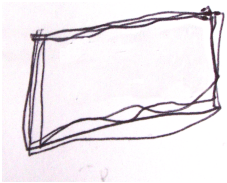
To remember a set of information, create a story that links all the elements together. In chemistry, for example, the noble gases are helium, neon, argon, krypton, xenon and radon. Imagine taking off in a *helium* balloon lit up with a *neon* light. An *argon* welder turns into Superman, who takes you to the planet *Krypton*, and so on.

To remember numerical information, give each numeral a picture code. For example, 2 is shaped like a swan, and 9 resembles a balloon and string. To remember that Queen Victoria had nine children, imagine her holding a balloon and string.

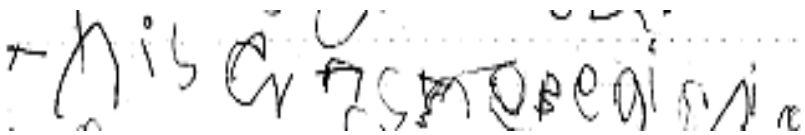
To remember foreign vocabulary, find a link between the sound of a foreign word and its meaning. For example, the German word for "bone" is *knochen*, so imagine the pain involved in "knocking" a bone in your leg. You can remember the Spanish word for "boat" – *barco* -- by imagining that a boat has a large "barcode" on its side, or picture a dog "barking" on a boat.

To remember a list, choose a familiar journey, maybe around your house, and picture each item on the list at specific locations. Test your class with a random list of 20 objects, then get them to imagine each item along a 20-stage route around their house. The same method can then be applied to remembering practical information such as the Periodic Table of Elements or the U.S. presidents.

## Why Is That Hard? - Writing Automatically - Dyspraxia



Trying to write several squares on top of each other



Irregular Sizes  
Separate Marks for Letters

Fine Motor Impairment  
Motor dyspraxia



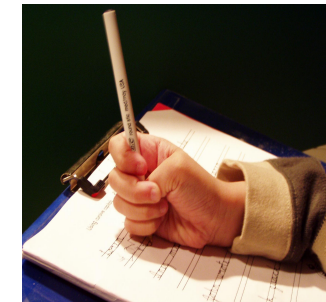
Students may have mild sensory issues in the fingers that can lead to finger confusion and problems knowing precisely where their fingers are in space.

This makes it much more difficult if not impossible to making identical marks. Letters vary in shapes and sizes.



Large Letters, Trouble with Curves

May Avoid Fingers



# Writing Automatically - Dyspraxia

- With severe dysgraphia, **extra time is not enough**.
- Students must have **significantly reduced work expectations** (for instance do one of each type of problems)
- **Scribing** when young and then **assistive technology** when older
- Students may also need **alternatives to conventional math classes (like ALEKS.com)** and option to use a keyboard for all written work including **science** classes.
- Students who are more mildly affected can print out **custom sized graph paper** that may help make their work more legible.

# Activities Affected By Procedural Memory

- learning motor sequences such as writing by hand or touch typing, riding a bike, driving a car, playing piano, getting dressed
- reading without conscious effort
- using grammar and punctuation in written work
- doing arithmetic, multiplication, long division

Some people may also master certain tasks automatically, but under stress or pressure will struggle with a procedure

# Dyslexia and Memory

1. Describe the 3 types of long term memory and give examples of each. In the video with doctor and author Blake Charlton, how did he learn the different elements in the periodic table?
2. A student in your class is having trouble remembering spelling words, like homonyms and sight words. Suggest at least two ways to help her remember these words and give specific examples.
3. Research the Easy Spelling Aid app and watch a video of the app in use. What does it do and how might be helpful to a dyslexic student while writing? Would it help a situation where a student is 'dumbing down' their writing because they aren't sure how to spell the words?