



MEMORY

By Drina Madden



+ THE SENSORY GATE

■ THALAMUS

- All sensory information comes to the thalamus first
- It monitors the STRENGTH and TYPE of the impulses



THE SENSORY REGISTER

- The sensory register acts as a filter to allow the brain to focus on more important items

- The person uses past experiences to decide how important the information is



SHORT TERM MEMORY

■ 1. IMMEDIATE MEMORY

- Like a clipboard – it holds information until we decide what to do with it
- We can make it hold information
- It can hold some information automatically



SHORT TERM MEMORY

■ 1. IMMEDIATE MEMORY

- Can hold information for 30 seconds
- Threats and emotions can interrupt the processing into memory



SHORT TERM MEMORY

■ 1. IMMEDIATE MEMORY

- CHILDREN WHO FEEL SAFE AND EMOTIONALLY SECURE LEARN BETTER
- Emotions consistently affect attention and learning
- We need to help students learn to manage their emotions



SHORT TERM MEMORY

■ 2. WORKING MEMORY

- CONSCIOUS PROCESSING TAKES PLACE HERE
- LIKE A WORKTABLE WITH LIMITED CAPACITY
 - Can build memories
 - Can take memories apart
 - Can rework ideas for final storage somewhere else



SHORT TERM MEMORY

- Can only handle a few items at a time
 - Younger than 5 = minimum of 1
 - maximum of 7 chunks
 - Between 5 and 14 = minimum of 3
 - maximum of 9 chunks
- IT' S TEMPORARY 5 TO 10 MINUTES

+ LONG TERM MEMORY

- HIGHEST SURVIVAL RATE IF STORED QUICKLY
- EMOTIONAL ISSUES ARE EASILY STORED PERMANENTLY
- IF IT MAKES SENSE – MORE LIKELY TO BE STORED

+ LONG TERM MEMORY

- PAST EXPERIENCES ALWAYS INFLUENCE NEW LEARNING
 - Act as a filter for things that have more meaning
 - Must see a future use for the material
 - No meaning – less likely to store

- SELF CONCEPT CAN OPEN OR CLOSE ACCESS TO LEARNING

+ TYPES OF LONG TERM MEMORY

- NONDECLARATIVE – no words
 - Procedural
 - HOW to do something
 - No conscious attention is required
 - Perceptual skills – color discrimination, I. D. tones of music
 - Cognitive skills – figuring procedure for solving a problem
 - Motor skill – daily tasks
 - Emotional – create an emotional “gist”



TYPES OF LONG TERM MEMORY

- DECLARATIVE – uses words
 - Conscious
 - Names, fact, music, objects
 - Episodes – time and place where something happened
 - Knowledge of facts



LEARNING AND RETENTION

- REHEARSAL

- NEED TIME TO PROCESS AND REPROCESS
- NEED TIME TO REHEARSE



LEARNING AND RETENTION

- ROTE REHEARSAL
 - Used when exact recall is necessary

- ELABORATIVE REHEARSAL
 - Associates the new learning with earlier learning

- ALMOST NO LONG TERM RETENTION WITHOUT REHEARSAL



LEARNING AND RETENTION

- WHEN PRESENTED is important
FIRST AND LAST ARE REMEMBERED BEST
- TEACH NEW MATERIAL FIRST
- MAKE SURE INPUT IS CORRECT
- KEEP LEARNING MOMENTS SHORT
- REST BETWEEN BLOCKS OF LEARNING

+ LEARNING AND RETENTION

■ METHOD USED

- TEACH OTHERS – 90% RETENTION
- PRACTICE BY DOING - 75%
- DISCUSSION GROUP - 50%
- DEMONSTRATION – 30%
- AUDIOVISUAL – 20%
- READING – 10%
- LECTURE – 5%

+ LEARNING AND RETENTION

- REPEATED PRACTICE CAUSES THE BRAIN TO ASSIGN EXTRA NEURONS TO THE TASK
 - BASICALLY PERMANENT
 - THE EARLIER, THE BETTER
 - YOUNGER LEARNER = EASIER CHANGES
 - USE IT OR LOSE IT

+ LEARNING AND RETENTION

- TEACHERS CAN HELP-
 - START WITH SMALLEST AMOUNT OF MATERIAL THAT WILL HAVE MAXIMUM MEANING
 - MODEL THE PROCESS STEP BY STEP
 - HAVE PRACTICE OCCUR IN THEIR PRESENCE OVER A SHORT PERIOD OF TIME
 - WATCH THE PRACTICE AND PROVIDE PROMPT, SPECIFIC FEEDBACK IF SOMETHING NEEDS TO BE CHANGED



LEARNING AND RETENTION

- GUIDED PRACTICE

- PRACTICE MAKES PERMANENT
- MAKE SURE THEY PRACTICE PROPERLY THE FIRST TIME
- SUSTAINED PRACTICE OVER TIME INCREASES RETENTION

+ MEMORY ACTIVITY

- What kind of memory-building activities can you add to the classroom?
- What can you do to be sure that a child remembers the steps involved in hand washing?