

Teach Your Students Ways to Remember

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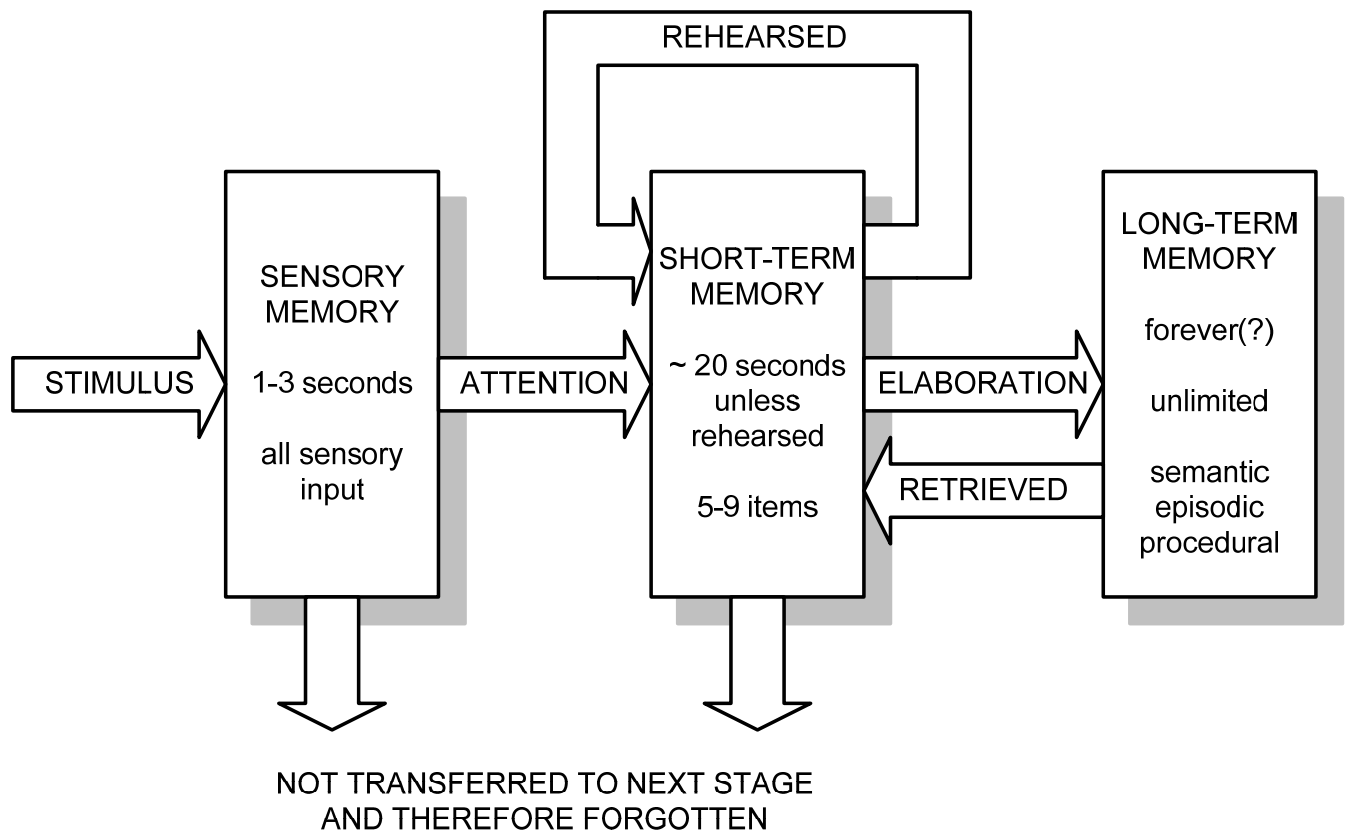
“The ‘secret of a good memory’ is thus the secret of forming diverse and multiple associations with every fact we care to retain.”
William James

“The true art of memory is the art of attention.”
Samuel Johnson

“You can remember any new piece of information if it is associated to something you already know and remember.”
Harry Lorayne and Jerry Lucas

“The key to getting smarter is growing more synaptic connections between brain cells and not losing existing connections. It’s the connections that allow us to solve problems and figure things out.”
Eric Jensen

How Memory Works: An Information Processing Model



PAVE your way to a better memory:

- P – pay attention**
- A – associate**
- V – visualize**
- E – elaborate**

Pay Attention

Get students' attention so that information from Sensory Memory is moved to Short-term or Working Memory. Emotion drives attention, which drives learning and memory. Begin your lesson with a startling statistic, an engaging picture, a current event, a thought-provoking quote, a personal anecdote, a video clip, or any change in the normal routine that may grab a student's attention.

Associate

Activate students' prior knowledge so they can use their prior learning to make sense of new information. Ask students what they already know about the new topic or review previous material. Make sure they see connections between the old and the new.

Visualize

The brain generally retains images better verbal information.

Elaborate

Focus on meaningfulness. If students actively attend to and process the meaning of information, it will be retained longer in memory. Learning is enhanced with a meaningful context.



Mnemonics Menu

Mnemonics are systematic techniques designed to enhance memory, particularly memory for new vocabulary, facts, and concepts.

First letter strategies

- Acronyms: An *acronym* is a word made out of the first letters of the items to be remembered. An acronym for remembering the names of the Great Lakes might be "HOMES" (Huron, Ontario, Michigan, Erie, Superior).
- Acrostics: An *acrostic* is a series of words, lines or verses in which the first letters form a word or phrase; for example, an acrostic for the Great Lakes might be "Healthy Old Men Exercise Some."

Story strategy

- Create a story using the to-be-remembered items.
- Convert abstract words into related words that can be easily pictured.

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Elaboration strategies

- Create a verbal connection between the content to be learned and something associated with it. (For *laggard*, meaning slow and sluggish, say: “Having jet *lag* can make you feel slow and sluggish.”)
- Use elaborative interrogation by asking and answering *why* questions about new information. (After reading a passage about gray seals, ask, “*Why* does the gray seal live on the Maritime coast?”)
- Think meaningfully about the new information and find ways to connect it with something already in long-term memory.
- For vocabulary, create a sentence or phrase to convey the meaning, such as, “Gregory is a friendly guy,” to recall that *gregarious* means outgoing and lively.
- For spelling, create phrases or sentences that convey the difficult aspect of the word, such as, “She screamed ‘EEE’ as she ran through the cemetery.”

Keyword method

- Create an acoustically similar proxy (keyword) for a new vocabulary or foreign language word, proper name, fact or concept.
- Link the keyword to the relevant associated information through an interactive picture or image. [*Ranid* refers to the family of typical frogs, so you can visualize a picture of a frog sitting in the *rain* (keyword).]

Peg word method

- Use *peg words* (for example, rhyming proxies for numbers, such as one is a *bun*, two is a *shoe*, three is a *tree*, four is a *door*, etc.) to remember ordered information.
- Form a mental image of the *peg word* interacting with the numbered item (for example, a church door to remember the fourth commandment).

Method of loci

- Choose a series of locations that are familiar to you and easily imaged.
- Form an interactive image of each to-be-remembered item with one location on your path. To recall the items, mentally “walk” past each location, and “see” each item you placed in that location.

Rhymes and songs

- Create a song or rhyme for the information to be remembered.

Activities to Enhance Visual Memory



Digit Span Forwards and Backwards

Students work in pairs, and take turns reading increasingly long lists of digits (working from 3-digit strings up to 10) to each other. Partner must name the digits in order both forwards and backwards.

Sample Digit Strings:

84193, 382715, 7401529, 65829431, 974381250

“Gnilleps” Game – for visualizing spelling words

Students work in pairs, and take turns saying a word to their partner. Partner must spell the word correctly backwards.



Benefits of Mnemonic Strategy Instruction

- Increased retention of content, especially for students who have difficulty learning
- Improved attitudes toward learning
- More positive classroom interaction
- Reduction in time required to teach content (after strategies are mastered)
- Development of creative thinking skills
- Utilization of several intelligences

Strategies to Enhance Episodic Memory

- Rearrange desks, or of students in desks, or both
- Accessorize: wear hats, belts, scarves, masks, or full costumes
- Change the context: teach in the library, outside, or on a field trip
- Use one color of paper for all the handouts related to a unit
- Vary the place in the room from which you teach each unit of study
- Play emotional music in background when reading or discussing material
- Have students present dramatic performances of the material

Strategies to Enhance Procedural Memory

- Have students perform often enough that it becomes overlearned and automatic
- Incorporate movement through role play, dance, marches, games, sock puppets
- Have students stand up with some material, walk, jump, or clap

Review Strategies

- Remind students to stop after each page of reading to take notes/reflect
- Allow time for processing and transfer to LTM
- Have students discuss / summarize learning
- Have students create visual images/mnemonics
- Have students *teach each other* what they’ve learned
- Encourage students to use distributed practice rather than massed practice

Learning and Memory Resources

Erlauer, L. (2003). *The brain-compatible classroom: Using what we know about learning to improve teaching*. Alexandria, Va.: ASCD.

Hardiman, M. (2003). *Connecting Brain Research with Effective Teaching: The Brain-Targeted Teaching Model*. Lanham, MD: Rowman & Littlefield.

Jensen, E. (2005). *Teaching with the brain in mind*. Alexandria, VA: ASCD.

Marzano, R.J., Pickering, D.J., Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: ASCD.

Mastropieri, M. A., & Scruggs, T. E. (1998). Enhancing school success with mnemonic strategies. *Intervention in School and Clinic*, v33 n4 p201-08.

Sprenger, M. (2005). *How to teach so students remember*. Alexandria, VA: ASCD.

Tate, M. L. (2003). *Worksheets don't grow dendrites*. Thousand Oaks, CA: Corwin Press, Inc.

Willis, J. (2007). *Brain-Friendly Strategies for the Inclusive Classroom*. Alexandria, VA: ASCD.

Wolfe, P. (2001). *Brain matters: Translating research into classroom practice*. Alexandria, VA: ASCD.

Brain Awareness Week Lessons

<http://faculty.washington.edu/chudler/baw1.html>

Neuroscience for Kids (GREAT WEBSITE! Lots of hands-on projects.)

<http://faculty.washington.edu/chudler/chmodel.html>