

The Brain

TPRS MULTI-CULTURAL CONFERENCE

CANCUN 2011

SUSAN GROSS

Environment affects learning. Make use of posters, color, positive atmosphere, a “No negativity” rule, and music to enhance the atmosphere of your classroom.



Language Acquisition and the Brain

TWO ISSUES TO KEEP IN MIND:

#1 Cognitive success

Comprehending, “getting it” in the classroom. Keeping up in class. Not getting lost. Hanging in there, keeping focused and following the flow of class. Joining in, participating, demonstrating comprehension and asking for clarification when needed.

#2 Long-term memory

Retaining the knowledge. Remembering the information. Applying the content of today’s lesson when using the language weeks and even months later.

The first issue requires that we teach carefully, joyfully, using all of the knowledge we can amass about how the

brain learns. We must attend to the progress of every student throughout the class. We monitor the on-going lesson while looking for opportunities to use the new structures in yet another sentence or in yet another situation.

The second issue requires us to understand that the brain is an excellent forgetter. We must ensure

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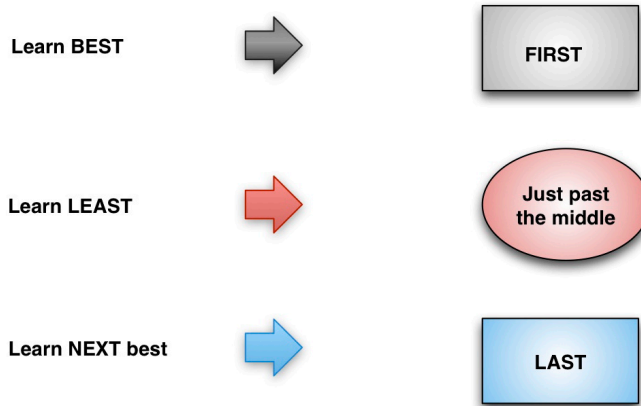


2011

“Every day teachers enter their classrooms with lesson plans, experience, and the hope that what they are about to present will be understood, remembered, and useful to their students. Yet, the extent that this hope is realized depends largely on the knowledge base that these teachers use in designing those plans and, perhaps more important, on the instructional techniques they select during the lessons.”

David Sousa, *How the Brain Learns.*(p xiv)

PRIMACY-RECENCY EFFECT



that all taught material is assessed throughout the year, and that all taught material is re-used throughout the year.

In order to address both of these issues, we must plan and execute lessons that make the best use of class time. Whatever part of the school schedule is allotted to us must not be used in a haphazard manner.

Summary of Basic Principles

These notes may help you follow the discussion. They may also help you review the workshop when you return to school next fall!



CONCEPTS

The brain is **constantly changing**: It can be altered by chemicals, or experience, or the classroom environment.



Guarantee success :

Teachers can change a student's self-concept. A student's self-talk is the best

predictor of success. Avoid "hearing" an error. Instead, pretend that you heard the right answer and simply repeat it!

Needs: Safety. Freedom from ridicule, from shame, from embarrassment.

Limited focus time: About 12 minutes in high school. Less for younger students.

Prime time: Teach new material at the beginning of class. Don't waste the best minutes of class!



TOOLS

Repetition: Repetitions should include vocal variety as well as grammatical (structural) information. Rote repetition is not valuable.

Surprise: The brain is attracted to things that are out of the ordinary.

Chunking: Greater quantity and greater quality of learning if material is contextualized in a meaningful way.

Personalization: Increases interest, extends focus time, enhances class atmosphere,

Forgetting is normal!

The brain absorbs information and forgets most of it right away. Anything that is deemed unimportant, meaningless, confusing or uninteresting is not likely to be retained.

All teachers hope to overcome the natural tendency



to forget. We can dramatically increase the chances that our lessons are retained if we apply some basic principles.

Each principle deserves explanation, analysis, and discussion. Apply the principles to lesson planning, instructional practice, and classroom management.

Strategies that take advantage of how the brain works.

	Reciprocal learning	Storytelling	Mnemonics
	Increases retention by 50% Promotes reflection!	Meaning and sense! Brain remembers bizarre, unexpected, exaggerated things.	Metaphors, similes, gestures, analogies. Make relationships and connections.
	Rhythm	Visuals	Hands-on activities
	Rhyme, music, chants	Graphic organizers, pictures, charts, movies, actions	Create, draw, act, props, reflect and write, journals

fosters mutual support among students.

Framing: Supply a reason for learning. Embed information in a logical context.



ACTIVITIES

Teach to the eyes: Look into eyes of one student, then another. Essential for continual assessment.

Brain breaks: A continual flow of new information is counter-productive. No long-term storage can occur without time for integration.

Continual assessment: Question whole-group, individuals. Check on structure, alter the structure and check on the new form.

Teaching to the eyes is essential.

Use of color: to clarify and to teach structures.

Music: Atmosphere, brain breaks, culture, and language. One song per week for language acquisition.



OUTCOMES

Acquisition: Subconscious, understand message, comprehensible input. Fluency.

Learning: Study, memorize, understand rules, practice. Ability to edit.

Processes: Semantic and structural speech production take place in different areas of the brain. Logical analysis takes place in yet another area.



An area of the brain's cortex is stimulated when a person moves, just like a timed explosion in the head (Calvin, 1996)

The most effective teaching techniques for increasing intelligence unite both mind and body (Wilson, 1999)