

Beyond Gardner: Connecting Students to the World Through the Senses, Storytelling, and Magic

Judith Mazziotti
State University of New York, College at Buffalo
Ritornello's Studio Italiano

Synopsis: Cutting-edge findings in brain research are translated here into powerful new teaching solutions that enhance vocabulary retention, foster fluency, and raise achievement. Novel and engaging multisensory techniques are described for the foreign language teacher who is determined to connect with students and make an impact on the world.

Bye-Bye Learning Styles and Multiple Intelligences

People differ in their ability to learn new material depending on whether they hear it, see it, or touch it, right? This has been tested for over 100 years. And the idea that these differences might prove useful in the classroom has been around for at least 40 years. But what recent cognitive science has taught us is that while children do differ in their abilities with different modalities, teaching the child in his or her best modality doesn't affect educational achievement. There is no scientific basis for equating a task with a particular intelligence. Gardner's suggestion that the eight intelligences are independent systems also gains little support from neuroscience: Kavale and Forness (Willingham, 2005) provide substantial evidence that tailoring instruction to a student's modality is not effective; across their many well-designed studies, such tailoring had no educational effect. Surprise! So, what to do?

Hello Eyes, Nose, Mouth, Ears, Hands, and Hearts Together

The more senses we involve, the more sense it makes.

When you need to reflect on something, what do you do? You close your eyes and go off into a quiet room, shutting out all sensory input. But when you want to really take in an experi-

ence, all the senses should come alive, up close and personal! We need to involve many senses when presenting a lesson! Multisensory input in the form of images, sounds, feelings (tactile and emotional), tastes, or smells provides the best chance for successful, long-lasting learning for the majority of students and is a crucial component of good instruction (Zull, 2002). “The more senses that are involved in the learning, the more rapid and memorable will be the outcome” (F. Crick, Nobel Prize winning discoverer of DNA, 1994). Deliberately stimulating all the senses and engaging the most parts of the brain makes for highly efficient and deep learning. A May, 2007, edition of the journal *Science* reports on the stunning landmark study that language is learned through not only auditory cues, but also visual cues. Eric Jensen, too, agrees that we seem to be equipped with “massive parallel processors,” so we learn better with rich, multisensory input, providing multiple opportunities to retrieve the new learning. Sending auditory learners to the tape deck? *Passé*. Setting in motion as many sensory impressions as possible? Yes, but how to fit them all in?

Experiences Fortify the Memory: “You Had to Be There!”

In Old English *techen* means “to show.” The Latin word for teaching, *insignare*, also means to show, to point out, to provide the signs, and to impress or mark. If we want to make our mark, we teachers should “stay as close to the raw image of concrete experience as we can because the student, in trying to remember, is really just in search of images to connect to” (Zull, 2002). Researchers suggest “there is no upper limit to the number of pictures the brain can store” (Appleborne, 1999). That doesn’t mean lots of drawings, though drawings are better than unintelligible words. It means lots of props. The more concrete they are, the more attributes they have, the more memorable they are. Hands-on 3-D props are even more strikingly vivid in our recollections because they engage the tactile sense and muscular action that provide a mental picture that *moves*. There is simply no substitute for being part of a live experience.

Maria Montessori, a century ago, intuited this as she opened her first “Casa dei Bambini” schools set up like a house or a mini-cosmos, bringing the world to the children and the children to the world. She brought it simultaneously right into their eyes, ears and hands—and all of it with the freedom of choice. That choice needs to be present today. Personal proclivities can be part of individual student projects, but the lesson itself should incorporate all the senses at once to deliver the biggest wallop.

Multisensory Experiences=Comprehensible Input

“There is no way in which to understand the world without first detecting it through the radar-net of our sense” (Ackerman, 1990).

A story brought to life with multisensory or even “magical” effects can be largely understood just by being there. That’s how the brain works. It zooms in on things that are colorful, things that move and clang, things that love and hate, hunger and thirst, chill and thrill. The brain craves emotion and drama. And what better vehicle for comprehensible emotion and drama than magic tricks? The brain is riveted to the message if the medium is magic!

Current language acquisition theory claims that we acquire language in only one way: when we understand messages. The more comprehensible input we get in the target language, the more acquisition takes place. One of the century’s most influential language specialists, Stephen Krashen, believes that “the path of pleasure [through interesting comprehensible input] is the only path” (Krashen 1982, 1985, 1994). I think Dr. Krashen would love a magical language class!

The possibilities for relevant multisensory magic in the classroom are infinite, and the foreign language classroom needs magic most since our task is to make an unintelligible language utterly comprehensible, and when we’re teaching non-English speakers, even translation is of little help. The more senses we can involve, the more we connect with the brain, the more comprehensible our messages become, the more we drive home the meaning.

Magic Tricks: The Ultimate Multisensory Experience

People flying, animals talking, items appearing from thin air? Commonplace—on screen, that is. But teachers doing magic tricks in the classroom, like plucking a glowing ball of light from anywhere, even from a student’s mouth? From his or her hand? From a city on a map? Magic in the classroom knocks their socks off! One second your hands are completely empty and the next second, you’re holding a handful of light. The light passes from hand to hand and then vanishes. You toss it up in the air and catch it, swallow it, cough it up, put it into your ear, and pull it out of the other ear, constantly asking questions: Is it on Sam’s nose or foot? Is it in Chile or Argentina? This particular trick is super for prepositions, review of body parts, objects in classroom, and map work. It’s positively spellbinding! The magic trick learning curve? Just a

few minutes! You are asking questions and your students are on the edge of their seats, responding every second.

Imagine our “magic light” as the headlights of a target culture car. Beeping horns and screeching tires fill students’ ears. (Use Internet sound effects; activate with a remote.) Now add an aroma. How about “new car smell” from a spray can? More cultural links? Imagine the light is a racer in the Grand Prix, a Columbian train ride, a Volga boat adventure. Or tie the light into science: it’s a firefly, an eclipse, a UFO; the environment: discuss “light pollution” and the French and Spanish environmental initiatives; holidays: it’s a spooky ghost or the Christmas star; or sports: it’s the Olympic torch! Magical stories are multi-connectional: they connect to the National Standards, and they connect to the brain.

Opening Minds and Hearts

The entire premise of learning from experiences, such as classroom magic tricks, is built on astonishing the senses by delivering the unexpected. It is practically instinctual; the amygdala, the hunter-gatherer in our brain is our “9-1-1” mechanism that, without thought, in 18 seconds, surprises us and either wakes us or puts us to “sleep.” It’s sensory information that moves like “greased lightning,” either turning off learning or opening students’ minds and hearts.

Startle early and you’ll have their attention. Since the brain wants magic—the colors, the movement, the action, the drama and suspense—it tunes right in to magic tricks. Magic is the anticipatory set *par excellence*. You’ve heard this one: “If you can’t reach ‘em, you can’t teach ‘em,” so bring out your arsenal of magic tricks and the chances of reaching your students multiply. Adolescents in particular respond well to novelty and emotion (Feinstein, 2004).

When we are in discovery mode, we are all childlike. Our anxiety is low and self-confidence high, our “affective filter” is down, and we absorb like a sponge. “What is it? It looks like a magical box” The effective teacher asks a question, “What’s inside?” We start predicting, our heart rates are elevated. . . . She gives some clues, “It’s cold. . . . It’s white. . . .” She fires up our imaginations. . . . We’re wondering, guessing, predicting the outcome. Magic tricks encourage higher order thinking and keep students on task! “The shrewd guess, the fertile hypothesis, the courageous leap to a tentative conclusion—these are the most valuable coin of a thinker at work,” maintained Jerome Bruner. The same is true of the emergent speaker.

The Story Makes it Whole: “It is unity that doth enchant me.”-Giordano Bruno

Beyond questioning, how else can we help students comprehend their magical mystery tour? Through storytelling! “Stories activate the part of the memory where ideas are manipulated and made meaningful” (Sprengrer, Marilee, 2005). “The story form is a cultural universal. . . . it is the dominant sense-making tool. . . .” (Egan, 1986). You need a clear beginning that sets up an expectation. Each word thereafter needs to take the story forward or should be excluded. Set up a conflict, a dramatic tension where the sense of expectation is elaborated. Lastly, resolve the conflict. Each magic trick is an actual mini-story. But you determine the plot. It’s as simple as that!

Stories That Make Magic Meaningful and Deliver Fluency

Magicians use patter to inform the drama of their tricks. As a language teacher, you get to customize the patter to fill the needs of your lesson’s objectives.

You might choose any three high-frequency target structures from your current lesson, for example, “He needs,” “Where is it?” and ” “Oh no, don’t tell me!” These structures could become the focus of the “appearing light magic trick,” as detailed above, or part of any story or magic trick. Write them on the board with their English translation.

Question students to see who “needs” something, e.g., “Who needs pizza?” “Who needs a prom dress?” After questioning two or three pupils, review by asking, “Did Jay need pizza?” Did Sal need a prom dress? Did Jay or Sal need a pizza? Did Lyn need pizza or a prom dress? Keep mixing up the order of items so as to repeatedly use the key structure.

Prepare a simple story line that incorporates your three target structures. Give it a beginning, middle, and end. Include any personal details gleaned from your questioning that might make the story more entertaining. Weave it around any handy props, such as the “appearing light.”

A great follow-up to your story trick is to “TPR” the three target structures by inventing a specific action for each of the three target structures that students will act out on command. Then assess by observing groups of students performing the actions in various orders and even in series of two or three commands. Any action is fine and may be similar to previous such actions as long as they are unique that day. Follow this example to personalize and repeat your second structure, “Where is it?” Then lead a choral chant of the exclamation, “Oh no, don’t tell me!”

Choral chants can be musical or rhythmic and should be interjected at opportune moments in and out of class all year long—and with spirit! Add some rap moves or an odd voice for variety. Exclamations add emotion to your stories.

As you weave the story, ask the class to create identities and places (simple names are enough at early levels). Be ready to pitch in if they don't come up with needed details. Interject a lively class member's personal details into the story if that seems to work. Use volunteer student actors to provide visuals models and give them some props. Now they are personally invested!

Tell the story (using your student "actors" and their props), stopping to formulate yes-no, either-or, or deeper questions, and making as many "question word" inquiries as possible to force even more repetitions of your target structures. This is enjoyable and empowering, and builds long-term memories!

Tighten the tension by choosing any set of binary opposites: good and bad, big and small, fear and security, courage and cowardice. They will move your story forward. Stories are mostly about how people feel. In fact, all thinking is emotional (Damasio, 1994). These human feelings engage the heart, so make sure to use them. "Emotions are universal and drive attention, meaning, and memory. Even interrupting an emotion works: yes, cliffhangers do work" (Jensen, 1998).

All other new terms should be kept to a minimum, defined on the board in English and target language, or be taped to props, so story comprehension is guaranteed.

Summing Up

While each of us may have differing dominant learning modalities, the key is to trigger as many different modalities as possible during the presentation of new material. Students remember by connecting real experiences, sensory-rich and varied, to stories and to prop-rich magic tricks... They are emotionally invested in what they hoped, what they feared, what they ate, what made them laugh, what they saw, heard, and touched. This makes the brain denser and provides greater capacity for new and deeper understanding. Understanding brings fluency and that's what we were after in the first place!

When your students begin to develop fluency, it is as if that "light" were shining on your own head and heart. Your own multisensory talents will be engaged and the pathways connect-

ing you to your students will become like dazzling multilane superhighways that will then radiate out into the world. Couldn't you use a little magic in your life, and in your classroom?

RESOURCES:

Ackerman, D., 1990. *A Natural History of the Senses*, N.Y.: Random House.

Conner, M., 2007. "Learning from Experience." *Ageless Learner*,
<http://www.agelesslearner.com/intros/experiential.html>.

Crick, F. 1994. *The astonishing hypothesis: The scientific search for the soul*. New York: Touchstone Books.

Damasio, A., 2000. *The Feeling of What Happens: Body and Emotion in the Making of Consciousness*, San Francisco, CA: Ecco Press.

Edelson, E., 2007. "Babies Can Discern Languages Through Visual Cues," *HealthDay Reporter* on Yahoo News, reporting from journal of 5/25/07 *Science*.

Egan, K., 1989. *Teaching as Storytelling*. University of Chicago Press, pp. 24-30.

Healy, J., 1999. *Endangered Minds: Why Children Don't Think and What We Can Do About It*, NY: Simon & Shuster. 2nd edition.

Feinstein, L., 2004 & Bynner, J. (2004). "The importance of cognitive development in middle childhood for adult socioeconomic status, mental health, and problem behavior." *Child Development*, 75, 1329-1339.

Jensen, E., 1998. *Teaching With the Brain in Mind*, Alexandria, VA: ASCD.

Kohn, Alphonse, 2000. *The Schools Our Children Deserve, Moving Beyond Traditional Classrooms*, NY: Houghton Mifflin.

Krashen, S.D., 1997. *Foreign Language Education the Easy Way*, Culver City, California: Language Education Associates.

Montessori, M., 1912. *The Montessori Method*. NY: Shocken Books Inc. (1964) or available free in digital format at <http://digital.library.upenn.edu/women/montessori/method/method.html>.

National Standards for Foreign Language Education,
<http://www.cas.usf.edu/languages/whystudy/standard.htm>.

Oppenheimer, T., 1997. "The Computer Delusion," *The Monthly*, Vol. 280, No. 1, pp. 45-62.

Reardon, M. and Derner, S., 2004. *Strategies for Great Teaching*, Chicago, IL.: Zephyr Press.

Sousa, D., 2001. *How the Brain Learns*, Thousand Oaks, CA: Corwin Press.

Sprenger, M., 2005. *How to Teach Students to Remember*, Alexandria, VA: ASCD.

Verhoeven, L. and Snow, C., 2001. *Literacy and Motivation*, Mahwah, N.J.: L. Erlbaum Associates.

Willingham, D., 2005. "Do Visual, Auditory, and Kinesthetic Learners Need Visual, Auditory, and Kinesthetic Instruction?" *American Educator*, Summer 2005, Washington, D.C.: American Federation of Educators.

Zull, J.E., 2002. *The Art of Changing the Brain*, Sterling, VA: Stylus Publishing.