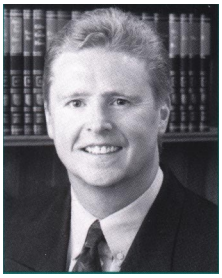


*Marcus Conyers* *Donna Wilson, Ph.D.*

# Just Do It: Putting Brain Research to Work In the Classroom

*"Brain research and its implications represent the new frontier for teachers and administrators – a frontier which we must consider, if we are to promote equity and excellence for all children."* (Tirozzi, 2000)

### Let's Get Practical

Implications of brain research support much of what cognitive education has suggested for decades. However, nothing will change until we start to apply what we know in the classroom.

With this in mind, we have shared the BrainSMART system with 25,000 teachers and 5,000 students at all grade levels. It is a research based approach that creates a love of learning grounded in implications of brain research and years of cognitive education, psychology, and learning research in business.

In April we went to Monroe County, Marathon, Florida to work with 750 students and their teachers to model research based practices that are getting results. In the afternoon as we were walking down the hall, a second grade student approached us after we did a BrainSMART (Conyers & Wilson, 2000) lesson with his class. He excitedly proclaimed his use of new metacognition and a cognitive strategy, "I made a 90% on our spelling test today and do you know how I did it? I thought hard and looked up to remember how the word looked!"

Earlier that day when we had worked with this boy and his other classmates, we encouraged students to activate maximum recall capacity by looking up. Try it yourself! For example, stop reading this article for a minute and think of how many windows you have in your house. Notice where your eyes go. You probably looked up.

People looking up to their left are accessing memory, and those looking up to their right are accessing imagination (this is true for some 90% of learners). Some teachers and students verified that they had seen this information used in the movie "The Negotiator." Another example of this strategy put to use is when good spellers look up to their left to see how word looks, look across to their left to sound it in their minds, and down to their right to see if it feels right *(Grinder, 1995).*

Many students fail to recall information during a test because they have been taught to look down at their own paper. When they do look down, access is shut off to their visual recall system. Typically they look down to their left, which stimulates self talk and might say, "I don't even remember studying this." They then might look to their right, which accesses self feelings and start feeling like a failure. Of course, when they walk out of the room where they took the test, they might look up and the information floods back, "just in the nick of too late." We are very pleased that our second grade friend, Mark, and his classmates, now know a very important test taking strategy that will help them score higher on tests again and again. (For a step- by -step way to use the Eyes Up BrainSMART strategy see it in the strategy section of this article.)

### Putting Brain Research to Work In Classrooms

Over the last 5 years in facilitating 400 workshops we have learned some key principles in guiding the transfer of the implications of brain and cognitive research into effective classroom practice. They are as follows:

- Pareto's Principle - 20% of what you do gets 80% of the results *(Koch, 1998)*
- Teachers develop more positive beliefs about student learning only after they have a change in practice and see student learning and achievement increase, not before as once suspected *(Guskey, 1985)*
- Student achievement is more dependent on metacognition (thinking about thinking) and cognitive skills (thinking) than environmental conditions (Wang, Haertel, & Walberg, 1993)

The BrainSMART Model *(Conyers and Wilson, 2000)* focuses on five fundamentals of teaching and learning that may get 80% of the results organized in a systematic way. They are easy to use. As teachers use the strategies, students are equipped with the cognitive tools they need to learn more effectively. They are distilled from 1,000 sources and 50 years of learning literature in education, business, and psychology. The five components can be easily remembered using the acronym SMART!

- **State:** Create concrete experiences of learner success that result in optimism and high expectations (Seligman, 1995)
- **Meaning:** Ensure that learning experiences are relevant to the real world of the learner and engage visual, auditory, kinesthetic, and tactile learning styles (Caine & Caine, 1997)
- **Attention:** Inspire focused attention followed by engaged practice, reflection, and meaningful feedback (Sylwester, 1995)
- **Retention:** Teach in ways that activate highly effective memory systems by all students. Equip students with retention and recall tools they need until they are skilled at remembering needed information (Sousa, 1995)
- **Transfer:** Ensure everything learned is in the 20% that gets 80% of the results. Equipping students with the skills and schema to apply knowledge in other contexts (Bradford, Brown, & Cocking, 1999)

### Four BrainSMART Strategies that you can use on Monday

The toolbox of 60 sample strategies *(Conyers & Wilson, 2000)* was developed in with busy teachers in mind. Teachers often use the sample strategies in the manual in professional development sessions. They create their own versions, however, when *(Guskey 1985)* they notice that the students enjoy and benefit from use of the strategies.

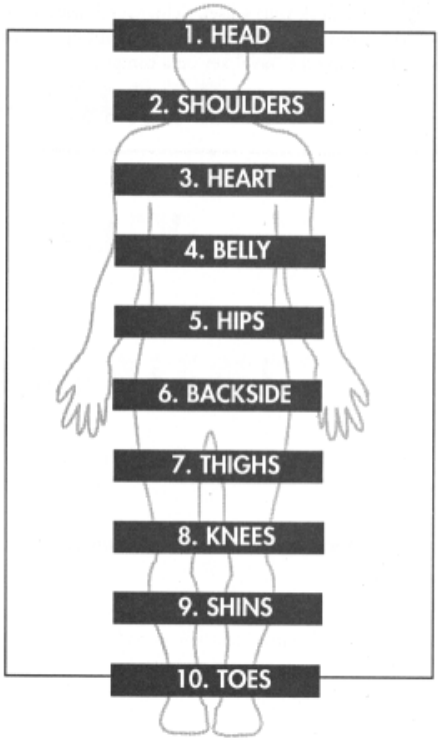
#### I Smart Pegs (K-12)

*PROBLEM: Your students are not able to readily recall information so that they can apply critical concepts, for example parts of speech.*

*SOLUTION: Give all students, particularly those who are more kinesthetic, a practical, portable system for retaining and recalling important information.*

- Step 1: Ask students to please stand up.
- Step 2: Ask students to recall the 8 parts of speech.
- Step 3: Then ask the students to turn to the person next to them and give them the list in order.
- Step 4: Give them a list of critical items they need to internalize such as the parts of speech: noun, pronoun, adjective, verb, adverb, conjunction, interjection, and preposition
- Step 5: Get students to mirror you as you

move down the SMART pegs attaching one word to each body part: (1) head - noun; (2) shoulders - pronoun; (3) chest - adjective; (4) belly - verb; (5) hips - adverb; (6) backside - conjunction; (7) thighs - interjection; (8) knees - preposition; (9) shins; (10) toes. *(For the parts of speech you need 8 (a-h) rather than 10; later you'll need to use these when you have more items for remembering.)*




- Step 6: Ask students to visualize, in a vivid way, each of the 8 items beginning with noun ending with preposition.
- Step 7: Ask the students to now remember each of the 8 items. Ask if anyone remembered more this time than the previous time and celebrate.
- NOTE: The power of the SMART Peg system is that virtually all students can succeed with it, particularly those who are more kinesthetic.

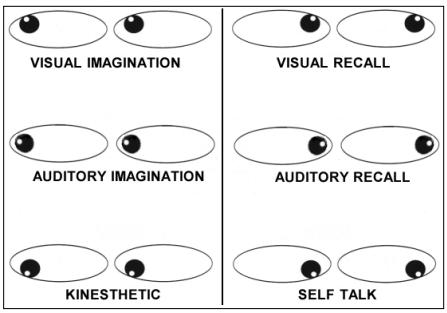
We recently enjoyed the success story from Maxine McCormick, an Orlando adult education teacher, who coached her own daughter in the use of the SMART Pegs after her daughter had dreams of being a physiotherapist dashed as a result of failing the state anatomy examination. After Maxine guided her daughter's test preparation using a version of SMART Pegs, her daughter retook the test and got the highest scores possible.

### II. Eyes Up (K-12)

*PROBLEM: Your students fail to recall and apply knowledge and skills they need to succeed when test taking.*

*SOLUTION: Equip students with a simple, practical method for boosting recall of information.*

- Step 1: Ask students how many windows they have in their home.
- Step 2: Observe where the students' eyes move in response to your question. Then ask students to freeze.
- Step 3: Ask students to notice where their eyes are looking in response to your question. Note that most students are looking up.
- Step 4: Ask students if they've ever sat down to take a test and forgotten everything. Notice how many say yes. Then ask them where their eyes were looking when they forgot everything. Notice many of them will say that their eyes were looking down.
- Step 5: Explain to students that for most people, looking up swithches on their brain's ability to remember things that they have seen.
- Step 6: Show the students a mind map of something you would like them to learn.
- Step 7: Suggest that they look at the mind map for one minute or so.
- Step 8: Take down the mind map and ask students what they remember. Prompt them by suggesting that they look up.
- Step 9: Practice this sequence a number of times until the act of looking up to help them remember becomes automatic.




- NOTE: Many students will improve their ability to recall information using this technique. Research indicates that important information can be best stored in students minds when you are presenting from the students' left side of the room. Remember that a student's eye movements are often indicating a specific form of mental processing that they need to undertake in order to remember something. Asking for direct eye contact with the student can often shut down effective thinking and memory.

### III. Story Scaping (K-12)

*PROBLEM: Your students have low levels of motivation to write stories. Their writing may be short or without structure of beginning, middle, and end.*

*SOLUTION: Equip students with a concrete cognitive structure for effective story writing and help students understand the elements of effective writing.*

- Step 1: Choose a story that you and your students will enjoy.
- Step 2: Act out the story joyfully in your classroom, moving to different locations to anchor key points
- Step 3: Ask your students to replay to you the key elements. Location, characters, problem, solution, moral of story
- Step 4: Select a student to act out the story with you and ask students to contribute what happens next
- Step 5: Complete the story and ask students to replay what happened
- Step 6: Ask students to mind-map or draw the key elements of their own story
- Step 7: Ask students to write their story

### The Future Starts on Monday

It may be decades before stand alone brain research can be proven to boost student achievement. However, as educators integrate the findings of cognitive research and the proven success of effective teachers, it is clear that there is much "we can do on Monday" that does work. Any teacher who sees improvement in student achievement as a result of applying good brain based strategies will agree. For now, just do it. That is, observe, adjust, and do it again until students learn. Meanwhile, enjoy the exhilaration of seeing students succeed, and stay informed about the insights that the implications of brain research are bringing to light.

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