

15th Annual
Hawker Brownlow
**Thinking &
Learning**
Conference

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DONNA WILSON

SATURDAY 19 MAY

Session 3

**Flourishing Learning in the
Early and Primary Years**

MELBOURNE

DR DONNA WILSON

Donna Wilson, PhD, is an educational and school psychologist whose work in cognitive education focuses on areas including cognition in the classroom, metacognition, attention, memory, motivation, and improving teaching and learning. She is an adjunct professor and lead developer of graduate programs with majors in brain-based teaching with Nova Southeastern University and head of academic affairs for the Center for Innovative Education and Prevention.



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Flourishing Learning in the Early and Primary Years

Discover how research on neuroplasticity (findings that learning changes the structure and function of the brain) supports the view that intelligence can be enhanced. This session will explore optimising the learning potential of young children through a better understanding of brain plasticity, physical activity, and language and cognitive development in the early years. Participants will leave with strategies such as “Story Scape”, original animal stories that help to teach language and key cognitive skills, and other enjoyable tools for helping young children to wire in literacy skills by using the brain’s multiple pathways for learning.

Objectives and Outcomes:

- **Neuroplasticity and importance of conditions for learning**
- **Physical activity, language and cognitive development**
- **Eight strategies for engaging young children to learn in a minds-on/hands-on way**

**Flourishing Learning
in the Early and Primary Years**
Presentation by Donna Wilson, PhD

Introduction to
BrainSmart Teaching 20
*Science, Structures, and Strategies
for Increasing Student Learning*
DONNA WILSON and MARCUS CONYERS
Founders of **BIOINSIGHT**

**FLOURISHING
in the FIRST
FIVE YEARS**
Connecting Implications from Mind,
Brain, and Education Research to the
Development of Young Children
DONNA WILSON
MARCUS CONYERS

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Objectives and Outcomes

- * Neuroplasticity and importance of conditions for learning
- * Physical activity, language and cognitive development
- * 8 strategies for engaging young children to learn in a minds-on/hands-on way

All students arrive at school
with brains powered by 86 billion neurons...

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Neuroscientist David Hubel states that there are as many connections in a single cubic centimeter of brain tissue as there are stars in the Milky Way Galaxy.

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Children's brains develop uniquely based on literacy experiences that change the structure and function of the brain.

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Neuroplasticity and Intellectual Development

Neural connections at birth

Neural connections at six

Thereafter...experience/pruning

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Synaptogenesis (Brain Connections): Two Types

Experience Expectant

Common across humans, e.g.:

- * Walking
- * Talking

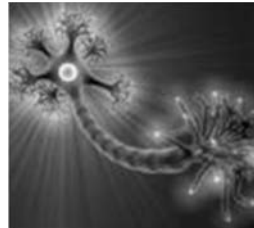
Experience Dependent

Each human becomes different depending upon their learning environment.

- * Vocabulary development
- * Map reading
- * Playing a musical instrument

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School, Learning, & Brain Plasticity



- * Maturation for learning at school will not spontaneously happen.
- * Time will not magically do the trick.
- * Experiences matter due to experience-dependent synaptogenesis.

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Teaching is a key to helping children flourish.



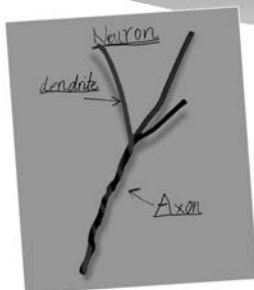
Although genetics play a role in determining one's "natural abilities," high expectations, supportive learning environment, key learning strategies, belief in ability to succeed (internalized from adults), and student effort influence achievement.

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Strategy 1: Teach Young Children about Their Amazing Brilliant Brains!



Young Children Enjoy Making and Labeling Pipe Cleaner Neurons



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Love Your Brain!



When young children are excited about learning something, they can give their brains a kiss by kissing their fingertips and touching their heads.

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Show How Learning Creates New Connections



Use colorful pipe cleaners to illustrate how learning creates new connections in the brain.

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Neurotransmitters, Plasticity, and Engagement



If children are ...
 * alert and engaged
 ... then neurotransmitters that enable learning are released.

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If you are intensely focused on the learning task, trying as hard as you can to get better, the neurotransmitter release rises dramatically and you are ready to learn and save it.

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Engagement with Letter Writing



* Students are engaged in a writing task.
 * Neurotransmitters are firing, and literacy learning is taking place.

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However...



If you are barely paying attention, half-trying to learn, and do just a tiny bit better than last time, only a small dose of neurotransmitters are released and you will realize little if any differences.

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Potential can be redefined as the capacity across the life span, fueled by the brain's plasticity, for acquiring the knowledge and skills to achieve at a higher level of performance when the proper conditions have been created.

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Three-Stage Theory of Young Children's Development: Stage 1



Conception to 15 months:
Brainstem

- * Food, security, safety, senses developing, motor reflexes/ exploration

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Strategy 2: Use movement throughout the school day. It is not only necessary for health and development, but for learning.

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- Movement throughout the school day helps young students stay motivated, alert, and ready to learn.
- Ample Play
- Body Crosses
- Reading Eyes
- I Feel Good, Yes!

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Additional Resource!



<http://www.kappancommoncore.org/smart-moves-powering-up-the-brain-with-physical-activity/>

Three-Stage Theory of Young Children's Development: Stage 2



15 months to 4.5 years:
Limbic system

- * Understanding of self/others, self/emotions, and self/language
- * Exploration: emotional, language, imagination, gross motor, memory and social

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Key Deep Limbic Functions

- * Sets emotional tone
- * Tags events as important or not
- * Determines motivation
- * Promotes social participation

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Strategy 3 : Connect to Positive Emotions



- Emotions are said to be the gateway to learning.

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Use the Mystery Object Strategy



- * ... to build curiosity and incorporate the senses into classroom learning.

Three-Stage Theory of Young Children's Development: Stage 3



4.5 to 7 years:
Gestalt elaboration

- * Whole picture processing/cognition
- * Image, movement, rhythm, emotion, intuition

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Model the Joy of Learning!



Model excitement about how your own brain is learning new things every day!

Watch for the magic of imitation!

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Three-Stage Theory of Young Children's Development: Stage 4



7 to 9 years:
Analytic and frontal lobe elaboration

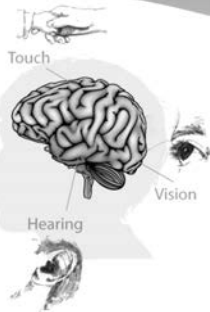
- * Detail and linear processing
- * Refinements of language /inner speech
- * Technique development
- * Fine motor/eye teaming
- * Reading, writing, math development

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Our Approach Melds Well with the Brigance Assessment Practices



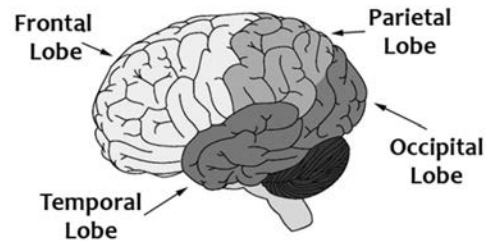
Strategy 4: Use the Brain's Multiple Pathways for Learning



- ... to help students learn to engage with words and stay alert and motivated to learn and become literate over time.

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Put Another Way... Whole Brain Learning



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Strategy 5: Story Scape
Building the Connections for Stories



- * Help students learn the structure of stories.
- * Make sense to visual, auditory, and kinesthetic learners
- * Story Scape is a great strategy for writing as well as reading and listening.

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Students Need Many Experiences with Language and Print to Crack the Reading Code



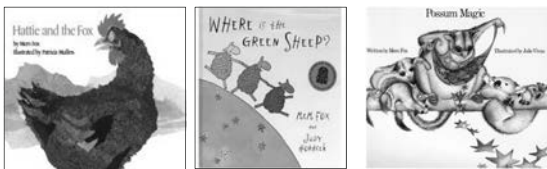
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Strategy 6: Use "Read-Alouds" Often




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<https://www.amazon.com/Possum-Magic-Voyager-Books-Mem/dp/0152632247>



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- * Read with passion.
- * Show passion in your ...
 - * voice
 - * facial expressions
 - * gestures

Present and notice your students' reactions.

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Bond Around Books



- * I *still* remember when I was age 3-4 how I felt reading in my mother's lap.

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Thinking about bonding and books

- * Think of some of your earliest and most positive experiences around books.
- * You may ask children to share...

Possible starters:
 Where were you?
 Who were you with?
 What was the story?
 What did you like about the story?

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Launch Smart



Adult starts reading print with passion and excitement.
 Children then read silently by themselves.

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Becoming a *mature thinker* does not happen in isolation. You need a guide.



BrainSMART
 brainsmart.org

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Strategy 7: Guide Students to Self-Regulate for Reading, Learning, and Thinking



Cool Calm's story illustrates in vivid and meaningful ways the learning challenge, the successful use of the listening tool, and plans for transfer.

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Ms. Cabadaidis Teaches Self-Regulation, Gift That Keeps Giving!



My students (ages 3-6) ... "Peter Rabbit wasn't thinking. He didn't have self-regulation. He went into Mr. McGregor's farm when his mother told him not to, and he got into a lot of trouble. He lost his brass buttons to his new blue coat!"

Wilson, D.L. & Conyers, M.A. (2013).
Flourishing in the First Five Years. p. 98

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Strategy 8: Teach Students How to Listen



Often schools expect young children to listen, but schools do not usually teach cognitive skills such as this.

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Stimulating positive emotion, language, movement, stories, read-alouds, and a print-rich environment are key for learning to occur at school. A variety of learning experiences early on in life helps to ensure primary school-aged children are able to crack the reading code, learn comprehension strategies, develop key skills for thinking, and more.

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Royal Roundup



Flourishing Learning in the Early and Primary Years

Research

The experiences that people have across the lifespan change their brains moment by moment. The changes occur due to a type of synaptic development called experience-dependent synaptogenesis. This type of brain development results in new connections that form due to experiences with people, places, and things around us. The experience-dependent brain is the foundation of continuing plasticity and of the capacity for people to adapt to the demands of school and life. While walking and talking come naturally for most human beings, most learning having to do with school is experience-dependent. So, for academic learning to occur, conditions must be right.

At BrainSMART®, we use the term body-brain system to convey how the interactions of thinking, feeling, and physicality can enhance learning. A 2010 report from the U.S. Centers for Disease Control and Prevention summarizing 50 studies involving active play during recess, physical education, physical activity breaks in the classroom, after-school sports, and other activities found positive associations with academic performance. At the same time, this meta-analysis found no negative consequences for making physical activity a regular part of the school day.

Practice

One way to get in plenty of physical activity during the school day is to use structured movement in the classroom. Classroom movement helps young children to sustain better focus and attention, as well as to develop better balance. Dr. Wilson will share some movement strategies such as the following to add to your teaching toolbox.

- SMART Cross
- SKY Cross
- KNEE Cross
- EAGLE Cross

To see Drs. Wilson and Conyers' research about the importance of movement to increase learning, check out our article in Kappan, "Smart Moves: Powering Up the Brain with Physical Activity," online at <http://www.kappancommoncore.org>.

BrainSMART® Original Strategies

from Dr. Donna Wilson's Workshop

Flourishing Learning in the Early and Primary Years

- ◆ **Strategy 1: Teach young children about their amazing brilliant brains!**
- ◆ **Strategy 2: Use movement throughout the school day. It is not only necessary for health and development, but for learning.**
- ◆ **Strategy 3: Connect to positive emotions.**
- ◆ **Strategy 4: Use the brain's multiple pathways for learning.**
- ◆ **Strategy 5: Apply the "Story Scape" strategy to building young children's connections for stories.**
- ◆ **Strategy 6: Use "Read-Alouds" often.**
- ◆ **Strategy 7: Guide young students to self-regulate for reading, learning, and thinking.**
- ◆ **Strategy 8: Explicitly teach students how to listen.**

Sample BrainSMART® strategies from Dr. Wilson's Workshop

STRATEGY



Use Read-Alouds to Motivate

A key strategy for motivating young children to engage in reading is to model excitement and interest by reading aloud a children's book you love and think your children will enjoy. Teachers communicate their interest in a book's content by reading aloud in an enthusiastic voice that conveys excitement about reading and a fascination with the topic. Well-done read-alouds also offer prompts so that students learn how to think about what is being read. This helps increase student comprehension.

Ms. Cabadaidis Teaches Self-Regulation, Gift That Keeps Giving

After introducing her students to the skill of self-regulation and generating a discussion about this important aspect of thinking, Gina Cabadaidis read her students *The Tale of Peter Rabbit*. Her students ages 3-6 began to discuss how "Peter Rabbit wasn't thinking. He didn't have self-regulation. He went into Mr. McGregor's farm when his mother told him not to, and he got into a lot of trouble. He lost his brass buttons to his new blue coat!"

From Dr. Wilson's book, *Flourishing in the First Five Years* (page 98).



STRATEGY

Calm Cool

Introduce the central message of the story:

By becoming a better listener, you can learn a lot!

Calm Cool is the best listener in Happy Warren School. But this was not always so.

Do you know why Calm Cool became such a good listener?

Because he LOVES carrots.

Now all rabbits like carrots, but Calm Cool LOVES them. He loves carrots because they are bright orange. He loves carrots because they are crunchy. He loves carrots because they are so DELICIOUS.

What Calm Cool does not love is how hard it is to find the best carrots in the school garden.

One day, Calm Cool was sitting with his friend Naughty Paws as their teacher, Ms. Hare, was teaching everyone about taking care of the garden. All the rabbits were listening carefully except for Calm Cool and Naughty Paws. Instead of listening, they were giggling and playing silly rabbit games. So, they did not hear Ms. Hare when she whispered a secret: "The best carrots are in the middle of the garden, right behind the big oak tree."

When the school bell rang for play and snack time, all the other rabbits ran to the middle of the garden. Calm Cool and Naughty Paws did not run to the garden. They ran to the fence. They played hopscotch. They played shadow games with their big bunny ears.

When they finally went to the garden to get a snack, all the best carrots were gone.

"Why didn't anyone tell us there were such yummy carrots in the garden?" Calm Cool wailed as he watched his friends munching on delicious, crunchy, orange carrots.

"Ms. Hare did tell us, silly," said Digger Dan before taking another big bite of his carrot. "You just weren't listening."

The next day, Calm Cool decided he would be the best listening rabbit he could be. He kept his eyes on Ms. Hare, not on Naughty Paws. He pointed his long bunny ears right at his teacher, even though all the rabbits around him were busy boasting about the yummy carrots they found yesterday. So, when Ms. Hare leaned forward to share another secret, Calm Cool was the only one listening. Ms. Hare whispered, "Today the best carrots in the garden are behind the rose bush."

When the bell rang, Calm Cool was the first one through the door. He ran to the rose bush in the garden and found the brightest, crunchiest, most delicious carrot he had ever seen. Calm Cool thought, "Life is really good when you learn to be calm and cool so you can listen carefully!"

And that is how Calm Cool became the best listener in Happy Warren School.

This story has been adapted with permission from the *Thinking for Reading Curriculum*, by Donna Wilson & Marcus Conyers (BrainSMART, 2005) and can be found in *Teaching Students to Drive Their Brains*.

Sample BrainSMART® strategies from Dr. Wilson's Workshop



STRATEGY

Mystery Object

Purpose: Incorporating the senses into lessons to get students into a curious state and to boost their attention and recall.

Step 1: Map out the number of days you will have with each group of students.

Step 2: Make a list of unique sensory experiences for each day. For example, smell of a lemon, taste of candy, sound of a song, sticking fingers in jello, stroking a pet.

Step 3: Each day do one small sensory surprise.

Step 4: At the end of each day draw a picture of that sensory surprise and create a mind map of key information that was learned during that day.

Step 5: When you review ask students, for example, "What did we learn on lemon day, or Mozart day?"

Step 6: Consistently build something unique and interesting into each day of teaching.

Note: This simple approach to building curiosity can pay big dividends. We are metaphorically 'wired' to remember what is unique and different. It also sends a clear message to your students that you care enough about them to be creative and inventive often.

The "Mystery Object" strategy is from Dr. Wilson's book, *Introduction to BrainSMART® Teaching* (page 267).



A SPANISH TEACHER'S ADAPTATION OF THE

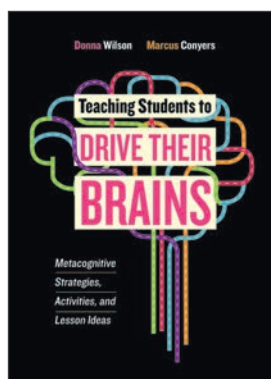
Mystery Object Strategy

Our brains receive input from our visual, tactile, auditory and olfactory senses, allowing us to engage with the rest of the world. Incorporating activities that involve all the senses can make lessons across contexts more memorable. Joe Frank Uriz, who teaches Spanish at in Gwinnett County, Georgia, says, "Sensory experiences are an important aspect of learning."

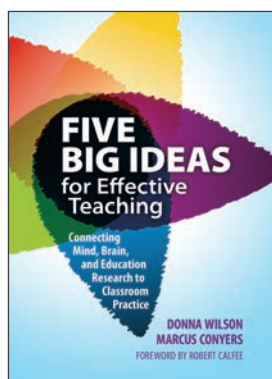
Mr. Uriz doesn't just teach third graders the Spanish words for fruits. He introduces the tropical fruits of the Americas in a "mystery box" activity that adds tactile, smell and taste experiences to learning. And he makes the most of the power of music and movement to reinforce what students are learning with a clapping chant song called "Frutas."

Available from Hawker Brownlow Education

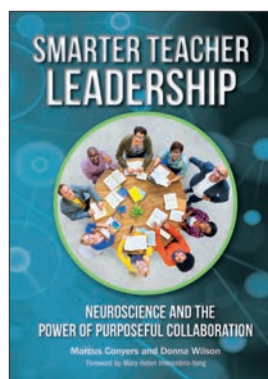
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	HB6623	Introduction to BrainSMART Teaching: Science, Structures and Strategies for Increasing Student Learning	\$49.95
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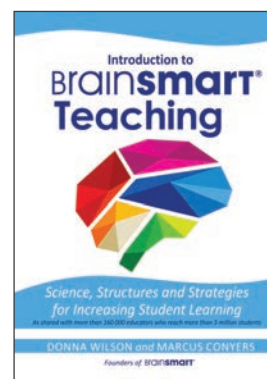
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