



COLLABORATIVE FOR THE APPLIED STUDY OF  
COGNITION AND LEARNING SCIENCES (CASCLS)

Mind/Brain Myth-busters Session Descriptions  
September 14-15, 2007

**GENERAL SESSION**

**Mind/Brain 101 and Neural Network Activity: Aleshire Theater, Hartnett Hall  
Dr. Deb Jensen, Teacher Education & Human Performance**

- A pictorial overview of basic gross (large) and fine (cellular) brain anatomy as a basis for the following sessions, along with an interactive activity illustrating how neurons in the mind/brain receive sensory information and make meaning from those inputs

**SESSION BREAKOUTS**

**Dyslexia, Exercise Balance-Balls & Colored Overlay: Metigoshe Room, Conf. Center  
Dr. Lisa Borden-King, Teacher Education & Human Performance**

- Teachers of reading are sometimes overwhelmed by all of the new products and programs for the teaching of reading particularly to struggling readers. Since all of them claim to be “research-based” it can be difficult to sort out which programs and products are beneficial from those that are not...to further complicate matters, there is no real professional agreement even regarding a definition of dyslexia. How do we integrate our own professional experiences (colored overlays worked for this student!) with the emerging research in the area of dyslexia?

**Developmental Levels of Geometric Thought & the Math Curriculum, Crane Hall  
Conference Rm. Cheryl Nilsen, Dept. of Mathematics**

- *From theory into practice –Planning for meaningful mathematical growth: We often push our students to learn algorithms and procedures without helping them to understand their conceptual underpinnings. The learning theories of Jerome Bruner and Dina and Pierre van Hiele’s can inform us in planning more meaningful and developmentally sound mathematical excursions for our students. In this session we will examine the development of operational algorithms for subtraction and division as influenced by Bruner’s work and the development of a geometric concept as influenced by the work of the van Hiele’s.*

**Gender Differences: How important are they? Aleshire Theater  
Dr. Shirley Cole-Harding, Dept. of Psychology**

- We constantly hear stories in the media about ‘his’ brain and ‘her’ brain. Are these differences real, and if so, what do they mean for teachers?

**Fact or fiction: Is the claim too good to be true? Audubon Room, Conference Center  
Dr. Lori Garnes, Chair, Dept. of Special Education**

- This session will demonstrate several techniques you can use to evaluate whether claims made in articles, websites and seminars are based on “good science.” The session will help you become a healthy skeptic and an informed consumer of information.

**Stress & Life-long Learning: Audubon Room, Conference Center  
Dr. Terry Eckmann, Teacher Education & Human Performance**

- Discuss the impact of stress on lifelong learning. Identify personal and student stress triggers and the signals that indicate “distress” and affect learning.

**GENERAL SESSION: Mind/Brain 102: Aleshire Theater, Hartnett Hall  
Brett Buican, Ph. D., Neuropsychologist, Trinity Medical Group**

- Making sense of the Wechsler’s Intelligence Scale for Children. Dr. Buican will be discussing what the results of the IQ test can and can not tell you about a child’s brain functioning.

**SESSION BREAKOUTS**

**The Neurology of Reading: Metigoshe Room, Conference Center  
Dr. Tom Linares, Communication Disorders**

- This presentation will discuss the anatomy of the brain with respect to reading. The major functions of the lobes will be presented as each relates to reading. The effects of damage to the brain will also be presented.

**Visual & Kinesthetic Connections with Math Manipulatives: Main 104  
Dr. Laurie Geller, Dept. of Mathematics**

- Learning and understanding mathematics requires student engagement. Mathematics is not a spectator sport, nor is it a series of rules to be memorized without understanding. Manipulatives can help children visualize, model, and make sense of the mathematical algorithms they learn and use throughout their lives. Come find out how manipulatives (virtual and physical) can enhance the teaching and learning of mathematics.

**Emotion, Reason & Higher-order Thinking: Crane Hall Conference Room  
Dr. Deb Jensen, TEHP**

- Have you ever been told that you must subdue emotion to think rationally? While this may be true in ‘fight or flight’ situations, new research on brain injury from Antonio & Hanna Damasio and other neuroscientists now shows emotion may actually be a critical player in higher-order thinking and decision-making. Learn how neural network connections, and just about everything from facial expressions to cortisol can affect our ability to think and motivation to learn.

**INTERACTIVE TABLE SESSIONS ON MYTH-BUSTER QUESTIONS**

**Metigoshe and Audubon Rooms, Conference Center, 3rd Floor Student Union**

- Process what you have learned so far with colleagues...generate/ask/answer questions. Please record feedback for us on your evaluation forms.

**GENERAL SESSION: Mind/Brain 103: Metigoshe Room, Conference Center  
Wendy Haaland, Trinity Medical Group**

**Sleep-It’s not just about beauty rest! How sleep patterns affect learning.**

- We all know that we feel better after a good nights sleep. But how is our performance and learning ability affected if we are chronically sleep deficient? The objective of this presentation is to explore detrimental effects of sleep deprivation and to identify measures that can be taken to ensure proper sleep patterns.

## **SESSION BREAKOUTS**

### **Attention, Perception & Recognition: Memorial 114**

**Dr. Shirley Cole-Harding & Dr. Paul Markel, Dept. of Psychology**

- How does the brain “shift” attention among competing sources, separating the signal from the noise? We will use practical demonstrations to show how the brain is adept at recognizing patterns that are often incomplete, illustrating the principles of perception that help us to do so.

### **4-MAT for Math, Metigoshe Room, Conference Center**

**Mike Arlien & Colleen Hodenfield, Minot Public Schools**

- Application of the 4-MAT model to the teaching of mathematics.

### **The Power of Play: Play and Cognition, Main 104**

**Dr. Margi Coxwell, Teacher Education & Human Performance**

- In this hands-on presentation participants will learn about the cognitive benefits of including play activities for their elementary students.

### **The Learning Brain: Logistics for Movement and More in Elementary Classrooms**

**Audubon Room, Conference Center**

**Melissa Stanley & Robbie Jo Morgan, Minot Public Schools**

- Classroom implications based on brain research will be the focus of The Learning Brain session. Participants will receive practical ideas for creating a brain-based learning environment for all students. Come and learn simple techniques for movement, hydration, nutrition, and more!

### **Tickling the Brain: Strategies for Brain-based Learning, Main 104**

**Dr. Margi Coxwell, Teacher Education & Human Performance**

- In this presentation participants will actively engage in lessons that help students learn to use their brains in creative and exciting ways.

## **INTERACTIVE TABLE SESSIONS ON MYTH-BUSTER QUESTIONS**

**Metigoshe and Audubon rooms, Conference Center**

- Sharing Sources: What are your questions? What would you like to see next from the MSU CASCLS? What are the best things you have heard, things of your own to add?

### **Taptalk and multiple-sensory instruction in the classroom, Memorial 114**

**Dr. Paul Markel, Dept. of Psychology**

- It has been suggested repeatedly over the years that learning in the classroom is enhanced when students use multiple sensory modalities. For example, the Slingerland Approach has been promoted for decades as a multiple-sensory teaching method to help dyslexic students with reading, speaking, spelling, and writing; the research supporting this approach will be reviewed. In addition, conference participants will be introduced to a new language system based on touch called Taptalk. The potential of Taptalk as an additional sensory modality for language instruction in the classroom will be discussed.

### **Mathematics Strategies, MSU Graduate Student Research: Metigoshe Room, CC**

- Graduate students in the MAT and M.Ed. Elementary/Middle School Math concentration will present information from action research in their classrooms.

**Self-regulation for Enhanced Skills in the Classroom, Audubon Room, Conference Center  
Dr. Johnna Westby, Dept. of Special Education**

- Self Regulation concerns an entire range of factors that affect students' performance. Interventions aimed at improving self regulation are one way for teachers to impact students' lives.

**A Snickety collection of unrelated events...or are they? Main 104  
Heather Golly, Deb Jensen, TEHP; Avis Veikley, Div. of Music / NW Art Gallery Director**

- Motor movement basics and applications for appropriate practice: How the mind/brain deals with patterns, for movement and in the mind.
- Have you ever thought about how your body knows how to take a step or run without you consciously telling it the command? This talk will touch on the basics of how the body produces motor movements.
- "Practice Makes Perfect? Preemptive practice strategies for musicians. Using brain-based strategies to improve accuracy in the performance of complex motor skills.

**Reading/Language Applied Classroom Research: Metigoshe Room, Conference Center  
Dr. Lisa Borden-King TEHP, Lori Olsen, Cyndi Wilhelm, & Harrietta Summers, MPS**

- This session will feature presentations by three M.Ed. students or graduates, drawn from their research for their master's degree, and focused on reading and language. Come to hear practicing classroom teachers talk about their own research regarding oral storytelling, fluency, and classroom strategies!

**So...is what you learned about learning in Ed. Psych. 10++ years ago still true? Main 104  
Dr. Deb Jensen, TEHP**

- Developmental science has informed teaching practice for at least the last 50 years, so what has changed? How does brain-based learning relate to all that business about Piaget, Vygotsky and Kohlberg? Learn what new studies of the brain and behavior are telling us about 'critical periods' or stages, how these relate to social/moral development as well as cognitive development, and how 'plasticity' helps the brain adapt within its environment.

**The Traumatized Child, Memorial 114  
Marie Mohler, Dept. of Nursing & Judith Quill Minot Public Schools**

- The brain develops and organizes as a reflection of developmental experiences. There are many factors that affect development and one is exposure to trauma. The traumatized child may not be able to sit in the classroom and learn like other students. Discover how trauma affects the brain and strategies to facilitate a traumatized child's learning needs.

**Motivation : Yes, you CAN make the horse drink! Audubon Room, Conference Center  
Becki (Barcomb) Anhorn, TEHP**

- Have you heard the old wives' tale, "You can lead a horse to water, but you can't make him drink?" The same is said about motivating students to learn. We have all heard people say, "you can't motivate students, they have to be motivated from within." That myth will be busted - based on brain and learning research in motivation. Yes, you can make them WANT to learn.

**COURSE EVALUATIONS (in your last session room) & RECOMMENDATIONS FOR THE FUTURE: Thank you for attending; travel home safely!**