

# Learning & *the* Brain On-site PD

## **Learner Variability and Neuroscience: Using Brain Science to Support Diverse Learners**

**by: Nicole S Ofiesh, PhD**

Teacher education programs cover so many topics that educators rarely learn how the brain functions in the classroom. Teachers are left with questions such as: “Why is this necessary?” “Why does *this* child struggle?” “What else can I do?” and “How will I find the time to meet the needs of *all* my students?”

This workshop helps teachers understand the brain parts and processes that regularly interfere with our best laid teaching plans. This neuroscientific understanding leads to more empathic teaching; it also clarifies the importance of diversifying instruction while maintaining clear goals and objectives for each standard or lesson. Like Universal Design for Learning (UDL), an understanding of cognitive neuroscience helps teachers understand how to use multiple methods of instruction and assessments. With this understanding, teachers better recognize how to employ techniques like UDL, accommodations, technology, and other forms of differentiation. In this way, teachers can consider how instruction can be modified for each student and still maintain high achievement expectations for all students – including students with disabilities, a history of trauma, and those with limited English proficiency.

This 1.5 day workshop includes, lecture, video, hands-on group activities, and discussion to improve classroom instruction with a foundational understanding of brain science.

### **Learning Objectives:**

Based on the neuroscience of learner variability and the UDL paradigm, teachers will learn how to:

- Present content and information in different ways;
- Understand and support the most common areas of executive functions, working memory, processing speed, academic fluency and rote, sequential memory.
- Identify the core objectives of a learning task to design evaluations that allow most students to best express what they know.
- Stimulate students’ interest and motivation for learning.
- Start with clearly articulated goals and objectives for teaching and then diversify.

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Dr. Ofiesh is a cognitive behavioral scientist with expertise in dyslexia, learning disorders, ADHD and autism spectrum disorders. She began her career teaching students with emotional and behavioral disorders and learning disabilities in the 1990's. She believes teaching an understanding of how cognition and the brain is associated with learning and performance, is critical to preparing learners for the needs of the 21<sup>st</sup> and 22<sup>nd</sup> centuries. She was the former Executive Director of the Stanford Schwab Learning Center and Founder of the UDL Innovation Studio at Stanford. Her academic interests include resilience and hope theory for youth with learning differences, universal design for learning, design thinking in education, and test accommodations. Her teaching and research roles include positions at Stanford University, Penn State University, the University of Arizona and Notre Dame de Namur University, where she was Program Director of Special Education and Department Chair of Teacher Education. Her research has influenced federal guidance on the provision of test accommodations for individuals with disabilities. She received her MA in Special Education and teaching credential from San Francisco State University and her Ph.D. in Special Education with an emphasis on learning disabilities from Penn State University.

