

## **ASLA Denver 2014**

### **Session Title:**

Evidence-based Landscape Design: Pilot Study of Children with Developmental Disorders

### **Marketing Statement :**

More than *just play*, children with developmental disorders benefit from strategically designed sensory playgrounds and sensory gardens. This study evaluated the outcomes of outdoor play using a multiple baseline research design. The lessons are applicable to future sensory gardens and play areas within broad fields of architecture and landscape architecture.

### **Learning Objectives:**

1. Overview research on outcomes of treating developmental disorders in the context of a sensory garden/playground.
2. Define sensory processing disorders showing treatment in our sensory garden / playground at STAR Center.
3. Identify elements of landscape design that facilitate self-regulation and social participation for all children and contribute to a quality experience in sensory playgrounds/gardens.
4. Discuss research findings from this project, which go beyond playground design, and have implications for architecture and landscape architecture in general.

### **Session Outline**

1. Overview of the Research Project
  - a. The need for evidence-based research in landscape design
  - b. Review theoretical issues related to landscape design and playground design as discussed by Messervy (date) and other landscape architects.
  - c. Understand the need for landscape architects and architects to design simply beyond what code and federal legislation (ADA) requires.
  - d. Discuss the development of the sensory garden and sensory playground at STAR Center (Denver, CO)
  - e. Provide the methodology for the pilot study, a noncurrent multi-

probe multiple baseline research design, highlighting strengths and limitations of this research method.

3. Understanding Sensory Processing Disorder (SPD) and other Developmental Disabilities
  - a. Brief definition with videotaped examples of the subtypes of SPD and other prevalent developmental disorders such as Autism and ADHD.
  - b. Examples of treatment of SPD and other developmental disorders in the sensory garden and the sensory playground with an emphasis on specific elements of design that successfully support and enhance the treatment techniques and rehabilitation process.
4. Elements of Landscape Design that enhance the quality of experience for the child and family in the outdoor play yards and playgrounds: What the research data has shown about the value of sensory landscape features for all children as well as for treating children with developmental issues including:
  - a. The olfactory garden to awaken the senses,
  - b. The touch garden to appreciate the power of touch,
  - c. The visual garden to become mindful of color,
  - d. The "Time Inn" to recover self-control,
  - e. The "High Starbase" to envision and dream,
  - f. The "Cosmic Tree" to ground or stabilize
  - g. The "Secret Grove" to communicate with another
  - h. The "Simple Paths" a place to explore
  - i. The "Primitive Hut", a quiet shelter
5. Elements of Playground elements that contribute to quality of experience for the child and family: What the research data has shown about the value of various playground elements
  - a. The moving elements for location in space
  - b. The tactile elements for body awareness
  - c. The proprioceptive activities for muscles and joints
  - d. The visual elements for space and form
  - e. The auditory elements for discriminating sound
6. Advantages of Qualitative and Multiple Baseline Research designs in developing an evidence base for landscape design and playgrounds
  - a. Brief description of qualitative and/or multiple baseline research designs that would be useful for landscape research
    - i. Non-concurrent designs
    - ii. Multiple probe designs

- b. Discussion of the research findings from this project goes beyond playground design, and has implications for architecture and landscape architecture in general.

## 7. Discussion and Q and A

### **Research:**

1. Miller, Lucy J. *Sensational Kids: Hope and Help for Children with Sensory Processing Disorder*, Penguin Group, 2006 .Print.
2. Messervy, Julie Moir *The Inward Garden: Creating a Place of Beauty and Meaning*, Bunker Hill Publishing, 2007. Print
3. "Sensory Focus Magazine" *Playgrounds: A Natural Occupational Therapy Opportunity*. Spring 2013. Print.
4. Cooper Marcus, C. and Barnes, M. (ed.) *Healing Gardens: Therapeutic Benefits and Design Recommendations*. New York: Wiley and Sons, 1999.

### **Presenter bios:**

#### **Lucy Jane Miller, Ph.D., OTR**

*Founder and Director, SPD Foundation and STAR Center*

Founder of the first Sensory Processing Disorder research program, and the world-renown STAR clinical center, Dr. Miller has been investigating and treating SPD since 1972. Studies by Dr. Miller, and colleagues, have helped bring SPD widespread recognition, and her work with families has improved countless lives. Dr. Miller has also developed nine nationally standardized tests to assess and diagnose SPD and other developmental disorders.

In 2004, Dr. Miller received the Award of Merit from the American Occupational Therapy Association, the profession's highest honor. In 2005, she was awarded the Martin Luther King Jr. Humanitarian award by the state of Colorado.

for three decades of work with disenfranchised children.

Her special interest in, research about, and new intervention method for those who have Sensory Processing Disorder has impacted countless children and families.

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**John McConkey, MBA, CPSI**

John McConkey serves as Market Research and Insights Manager at Landscape Structures. He brings over 15 years of experience in the healthcare field, and offers a unique perspective on inclusion, health, fitness and children's play on the playground. Since 2002, John has researched and tracked societal trends and industry trends to help create new and innovative playground design solutions. John develops and delivers IACET and LACES approved continuing education programs around North America and outside the United States.