A Universal Approach to Enhance Learning Through Communication and Social Engagement

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Incidence of Autism

- Current (2010): 1 in 68
  - ~30% increase from 2008
  - ~60% increase from 2006
  - ~120% increase from 2002
- 2008: 1 in 88
- 2006: 1 in 110
- 2002: 1 in 150

http://www.cdc.gov/ncbddd/autism/data.html
Core Challenges of Students with Autism

- Difficulty attending to social stimuli
- Difficulty initiating/seeking out social stimuli
- Difficulty anticipating/predicting the intentions of social stimuli
- Acquiring language about social stimuli
- Maintaining social relationships by using appropriate social conventions
“Traditional” Core Deficits

- Noncooperation
- Inflexibility
- Stereotyped and Repetitive behaviors or motor movements (coping strategies)
- Rigidity, including narrow interests and activities

… Above are actually secondary challenges

Education Costs:
- $8,600 extra per year to educate a student with autism. (Lavelle et al., 2014)
- Average cost of educating a student is about $12,000 – NCES, 2014

Challenges in the Schools

- Financial Resources
- Personnel and Staffing Resources
  - Training
  - Maintaining Staffing Capacity

- Time Challenges of School-Based Staff
  - To meet the wide variety of needs in the classroom throughout the school day
  - To collaborate with related service providers
Meeting these Challenges: A Universal Approach

Today’s Agenda

- Educational Outreach Program, Marcus Autism Center
  - Overview and Goals

- Neuroscience of Autism
  - Characteristics Highlighted

- Social Emotional Engagement – Knowledge and Skills (SEE-KS)
  - EOP Staff Development Program
  - Universal Design for Learning Framework
  - Relevance for all developmental levels, all ages, and all classrooms

- SEE-KS program in Forsyth County (2014-15 School Year)
  - Observations and Results, Special Needs PreK Program
Meeting these Challenges: A Universal Approach

Learning Objectives …

- After this session you will be able to:

1. Identify the 3 components for fostering active engagement via a Universal Design for Learning framework

2. List 3 communication stages and the key developmental skills prioritized within SEE-KS.

3. Identify at least 1 support for each of the 3 communication stages that benefits all students.
Educational Outreach Program
in Georgia’s Public Schools

• Dedicated to the provision of community viable models of professional development that enhance the on-site capacity of each school system served, resulting in better outcomes for students and our school systems.

• Focused on disseminating the most current social neuroscience related to students with autism spectrum disorders
Goals …

• Enhancing the provision of educational programming for *all* students through a universal design for learning framework that is aligned with normative social and emotional guidelines.

• Building capacity within a school district at 2 levels to maintain systematic methods for in-service training, coaching, and peer-to-peer mentorship
  ✷ Systemwide Level
  ✷ School-Based Level
Goals … cont.

- Facilitating financial sustainability and reducing the impact of disparities created by socioeconomic status and geographic location (i.e., urban vs. rural)

  - The Teachers College at Columbia University found that every $1 spent on Social Emotional programs equals an $11 return on investment
What is Social and Emotional Learning?

- SEL is a process for helping children and adults develop the fundamental skills for coping with the demands of everyday life, soothing when distressed, alerting oneself when “under the carpet” and identifying and reflecting on strategies to manage future challenges.

- SEL teaches the skills we all need to handle ourselves, our relationships, and our work, effectively and ethically.

www.casel.org/basics/definition/php
What is Universal Design for Learning?

A Universal Design for Learning (UDL)

Present information and content in different ways

Stimulate interest and motivation for learning

Differentiate the ways that students can express what they know

www.cast.org
Creating an equitable learning environment that offers successful outcomes for every student can be facilitated by understanding why children may or may not be compelled to actively engage in the classroom.

Research in the neuroscience of social emotional engagement fosters our ability to create a universal design for learning.
The SEE-KS Program
Social Emotional Engagement – Knowledge & Skills

- Funding
  - Autism Early Intervention Project via the State Professional Development Grant
  - A Collaboration between Marcus and GADoE

- Target Pre-K Programs (2014-15 School Year)
  - Forsyth Region
    - Forsyth County, Hall County, Gainesville City
  - Effingham County
  - Bibb County
The SEE-KS Program

Implementation within PreK Classrooms (2014-15 SY)

- Systemwide Training on the Neuroscience of Autism

- Identifying and establishing Systemwide and School-Based Teams

- Series of in-service trainings and site visits by GADoE and Marcus EOP staff targeting:
  - Social and Emotional Developmental Norms
  - UDL Supports that Benefit All Students
  - Coaching Techniques
  - Peer-to-Peer Mentorship
  - SEE-KS Data and Progress
Core Challenges of Students with Autism

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Why is this knowledge important?

- All students arrive to the classroom at different levels of social emotional engagement and emotional regulation.

- These levels can often fluctuate due to a variety of factors for different students at different times.

- Low levels of engagement and difficulties with remaining emotionally regulated impact academic learning and overall classroom performance.
• Knowledge in the areas of social emotional engagement and emotional regulation …

  ✷ Fosters our ability to create a Universal Design for Learning that is relevant for all students in a classroom

  ✷ Allows us to select priorities for educational programming
The Neuroscience of Autism and Social Emotional Engagement

- Neuro-typical Children …

  - Infants are innately “wired to look at the eyes.”

  - Social stimuli of looking at faces causes the limbic system to “light up” with endorphins.

  - This rewards infants telling them that social stimuli is pleasurable and … want more of it.
The Neuroscience of Autism and Social Emotional Engagement

- Neurotypical Children … cont.

  • Stages of Social Development:
    - Social Orienting
    - Seeking-Liking
    - Social Maintaining
Social Orienting …
The Neuroscience of Autism and Social Emotional Engagement

- Seeking-Liking …
The Neuroscience of Autism and Social Emotional Engagement

- Social Maintaining …
The Neuroscience of Autism and Social Emotional Engagement

- Children with ASD

  - Research: fMRI studies
    - Neurological differences in children with ASD
    - Social stimuli processed in different part of the brain
    - Limited neural sensitivity to social stimuli

    - May initially orient to faces as infants
    - Do not get the same “pleasure” from social stimuli as neurotypical infants
Children with ASD … cont.

Implications of neurological differences …
- Connections in the brain fail to form in regards to social stimuli, interactions, and finding people interesting.
- The focus and connections on objects strengthen.

Environmental factors also play a role … not enough stimulation further impacts brain development.
The Neuroscience of Autism and Social Emotional Engagement

- Children with ASD ... cont.

- As they get older this gap continues to widen.

- Over time ASD develop that part of the brain that processes people inefficiently.

- The area of the brain that processes “things” and non-social stimuli continues to be utilized and further develops.
“ASD is not a disorder of problem-behaviors … the problem-behaviors arise when their learning differences are not accommodated.”
The SEE-KS Program
Implementation in Forsyth County

- Overview with Administrators
  - Building Capacity
  - Facilitating Sustainability

- Establishing Systemwide and School-Based Core Teams
The SEE-KS Program
Implementation in Forsyth County

- Series of in-service trainings and site visits by GADoE and Marcus EOP staff targeting:
  - Social and Emotional Developmental Norms
  - UDL Supports that Benefit All Students
  - Coaching Techniques
  - Peer-to-Peer Mentorship
  - SEE-KS Data and Progress

- Coaching sessions (every 4-6 weeks)
  - Web-based (via video collection)
  - Site-based (2 visits from Marcus staff, additional visits from GADoE staff)
Key Student and Classroom Characteristics

- Communication Stage … focus student initially

- Special Interests, Motivations… focus student initially

- Classroom Accommodations as needed
  - Schedules
  - Activities Presented
  - Visuals
The SEE-KS Program
Implementation in Forsyth County

“Non-Negotiables” Determined …

- Physical Environment
- Visual Supports
- Curriculum/Instruction
- Behavioral Strategies and Program Structures
3 Stages of Communication

- Most Important Factor … Communication Stage
  - Allows you to identify priorities appropriate for the student’s level of development
  - Allows you to identify appropriate supports that need to be in place for appropriate social engagement to facilitate learning.

- Before Words
- Emerging Language
- Conversational
A child's ability and availability for engagement and communication and learning are greatly impacted by their ability to stay well-regulated emotionally and with their arousal state.
UDL Framework in Forsyth’s PreK
A. Fostering Engagement

“Stimulate interest and motivation for learning”

- Predict the sequence of events and steps toward completion to develop self regulation
- Ability to maintain and sustain active engagement
- Consider the child’s interests to stimulate and motivate engagement and learning
Predicting the Sequence
- Basket of Materials for Each Activity
UDL Framework in Forsyth’s PreK

B. Presenting Information in Multiple Ways

“Present information and content in different ways”

- Verbal language paired with multiple forms of representation to foster comprehension
- Pre-academics/cognitive skills are presented in multiple ways
- Social cues to ensure awareness and comprehension of expectations
UDL Framework in Forsyth’s PreK

B. Presenting Information in Multiple Ways

Visuals Paired with Verbal
UDL Framework in Forsyth’s PreK
C. Allowing Students to Act and Express Themselves in Multiple Ways

“Differentiate the ways that students can express what they know”

- Allow children to interact, engage, and foster problem solving skills, self-determination and emotional regulation.
- Appropriate for developmental level for expression and communication
- Opportunities for initiating and sustaining engagement
UDL Framework in Forsyth’s PreK
C. Allowing Students to Express Themselves in Multiple Ways

Core Word Board With Hands-On Materials
If you teach to these domains, you are also likely engaging all of your students not just those with learning differences.

Reward-based system not necessarily wrong or not-evidenced based, but not as longitudinally effective as teaching that the learning activity is intrinsically rewarding.

We have to work harder for those kids with autism, because they don’t respond as readily to social interaction.
Communication Ability: generally communicates through pre-symbolic nonverbal means

Emotional Regulation Ability: utilizes behavioral self-regulatory strategies such as mouthing fingers or objects, rocking, averting gaze.
- Often do not find initiations with social stimuli intrinsically rewarding

- As a result, have difficulty predicting that a caregiver or teacher is a source of engagement or assistance

- Facial and gestural forms of communication are initially delayed.
Before Words Communication Stage

**Critical Priorities**

- **Increasing functional, spontaneous communication** to a high rate of nonverbal communication.

- **Increasing conventional gestures that have a shared meaning** (e.g., giving, pointing, pushing away, head nods, and head shakes).
Before Words Communication Stage

UDL Supports or “NonNegotiables”

- Primary Goal:
  - To create interest in people as a source of engagement and support

- Promote child initiations by enticing and *consistently responding* to the child’s communicative signals
- Provide objects to remind the child to communicate for assistance (e.g., see through containers)
- Provide objects to remind the child to communicate for engagement (e.g., objects that represent social routines).
UDL Support: See-Through Containers

See-Through Container
With S+V
Sentence Strip
Emerging Language Communication Stage
Communication and Emotional Regulation Abilities

- **Communication Ability:** generally communicating through early symbolic means (e.g., verbal language, signs, pictures, emerging ability with other AAC methods).

- Shows a preference for object labels (i.e., nouns),

- **Emotional Regulation Ability:** Have more language and cognition available to them to help self regulate (e.g., echolalia and delayed echolalia such as self talk, using visual supports to help self-regulate). May resort to behavioral methods to soothe when distressed.
Emerging Language Communication Stage

Neuroscience of Autism

- Showing increased initiations when motivated for preferred items and objects, but continues to show decreased orientation towards social stimuli and people.

- Exhibits continued difficulty predicting the intentions of others and in predicting what will happen next within interactions and activities.
Emerging Language Communication Stage

Critical Priorities

- Increasing range of *spontaneous* communication involving others (e.g., requesting social actions and social routines, commenting on actions, and sharing experiences with others).

- Increasing range of word combinations for subject + verb (e.g., “Ms. Jessie go up,” “John do fast,” “Ms. Diane open juice.”)
Emerging Language Communication Stage

UDL Supports or “NonNegotiables”

- Primary Goal:
  - To develop creative language to share a variety of ideas, thoughts, and emotions (i.e., increased conversational skills via S+V or S+V+obj).

- Provide frequent opportunities for child initiations for a range of social functions (e.g., requesting actions from others, requesting comfort, and sharing emotion).

- Provide visual reminders of social language forms and not just nouns/labels (e.g., people’s names and actions).
Conversational Communication Stage

Communication and Emotional Regulation Abilities

- **Communication Ability:** conversational communication for a variety of pragmatic functions to share thoughts, ideas, and emotions.

- **Emotional Regulation Ability:** Increased language and cognition available can be utilized to help self-regulate. (e.g., delayed echolalia such as self-talk, using visual supports to help self-regulate)

- Can begin planning using their language skills, often with the help of visual supports to assist in self-regulation.
Shows difficulty with predicting the intentions of others

This challenge impacts the development of self-efficacy as a communicator and the ability to establish and maintain peer relationships.

This also limits the development of more sophisticated syntax to clarify intentions, knowing how to pick topics, when to initiate, how to balance conversational turns, and collaborating and negotiating with others.
Conversational Level Communication Stage

Critical Priorities

- Increasing spontaneous communication with one’s peers and a sense of self-efficacy.

- Increasing awareness of social norms of conversation (e.g., balancing turns, vocal volume, proximity, conversational timing, and topic selection).
Primary Goal:

• Building self-efficacy and social conventions

• Provide frequent opportunities for successful interactions with peers and positive emotional memories at school and in social contexts.

• Provide visual reminders for what to say, how to engage, and expectations of social and academic activities.
The Coaching Process

- Coaching / Mentoring Model
  - 2 Levels to Build Capacity and Create Sustainability
    - Marcus => Coaching and mentoring of District and School Based Teams
    - District and School Based Teams => Coaching and Mentoring of each other (peer to peer)
  - Appreciative Inquiry
The Coaching Process
Developing and Establishing Effective Coaching

- Video Review or Live Observation

- Appreciative Inquiry
  - Teacher-led conversation
  - Discussion of what’s working
  - Mutual agreement
  - Discussion of next steps

- Eventual Progression to System and School Team Leading Coaching Sessions
Data Collection
Determining Progress: Target Classrooms

- Classroom Data: Baseline and Post via observation of target classrooms
  - UDL “look-fors”
    - Rubric: Exemplary, Proficient, Emerging, Absent
  - Overall level of student engagement
    - Continuum: Fully engaged, Mostly, Partly, Emerging/Fleeting, No Focus
Data Collection
Determining Progress: Effective Coaching

- Coaching Fidelity Rubric
  - Focus on 4 Standards for Effective Coaching

1. Communication
2. Building Relationships
3. Questioning
4. Guiding the Process
Data Collection
Determining Progress: Building Capacity and Sustainability

- **SEE-KS Implementation Scale**
  - Establishment of Effective Coaching Teams
  - Recommending of Effective UDL/SEE-KS Supports by Coaching Teams
  - Demonstration of Effective Coaching Strategies of district and school teams
  - Collection of Data to Determine overall Fidelity of SEE-KS Implementation of district and school teams

- **Continuum**: “Not Yet Established … Starting Out … Developing … Deepening … Sustaining”
Educational Outreach Program, Marcus Special Needs PreK Program, Forsyth County

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