

# Neuro-Developmentally Sensitive Assessments and Interventions in Schools

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# The Philosophy: Where we Begin

- All students have the right to a free and appropriate public education in the least restrictive environment. (IDEA, 2004)
- Students will do well if they can (Green & Ablon, Collaborative Problem Solving)
- “The only way schools can increase learning is to increase the amount of relevant instructional time delivered” (Bausell, R.B., 2011)

# The Philosophy: Where We Begin

- **Self-regulation:** The length of time a student, on their own, can be attentive to the external world (in an appropriate way) to absorb social and cognitive content-“**Balance**”.
- **Use Dependent Development:** “Neurons and neural systems are designed to change in a “use dependent” fashion...Healthy organization depends on the pattern, frequency, and timing of key experiences during development. Patterned, repetitive activity changes the brain...”
- **Repetition, Repetition, Repetition: Neural systems and children, change with Repetition.**

# Roots of the Program: Focus on Regulation Skills

## Assessment

1. Formal Assessment (multi-disciplinary)
2. Informal Assessment (lagging skills/demands)
3. Structured Observation

## Intervention: Skills Based

- Physiological Regulation
- Emotion Regulation
- Executive Function
- Language Processing
- Cognitive Efficiency
- Social Foundation
- Social Thinking
- Academic

## Crisis Response

- Escalation Cycle/Arousal Continuum
- CPS-Emergency Plan B
- OIS Response Format

Based on  
Relevant  
Literature

Collaborative Problem Solving  
Adverse Childhood Experiences  
Interpersonal Neurobiology  
Executive Skills  
Traumatic Brain Injury  
Dialectic Behavior Therapy  
Cognitive Behavior Approaches  
Social Skills/Social Cognition  
Child Development  
Autism Spectrum Disorder

# Roots of the Program: The Literature

## **Adverse Childhood Experiences**

*Treating Traumatic Stress in Children and Adolescents* (2010)-Margaret E. Blaustein & Kristine M. Kinniburgh

*Traumatic Stress* (2007)-Bessel A. van der Kolk, et. al., Eds.

"Applying Principles of Neurodevelopment to Clinical Work with Maltreated and Traumatized Children-The Neurosequential Model of Therapeutics" (2006)-Bruce D. Perry

"The Neuroarcheology of Childhood Maltreatment"-*The Neurodevelopmental Costs of Adverse Childhood Events* (2001)-Bruce D. Perry, M.D., Ph.D.

"The relationship of adult health status to childhood abuse and household dysfunction" (1998) Vincent Felitti, Robert Anda, et. al.

<http://www.childtrauma.org/>

<http://www.traumacenter.org/>

<http://www.cdc.gov/ace/index.htm>

# Roots of the Program: The Literature

## **Interpersonal Neurobiology**

*The Social Neuroscience of Education* (2013)-Louis Cozolino, Ph.D.

*Help for Billy-A Beyond Consequences Approach to Helping Challenging Children in the Classroom* (2012) Heather T. Forbes, LCSW

*The Developing Mind* (2<sup>nd</sup> Edition-2012)-Daniel J. Siegel

*The Whole-Brain Child* (2011)-Daniel Siegel, M.D., & Tina Payne Bryson, Ph.D.

*The Mindful Therapist* (2010)-Daniel J. Siegel

*The Neuroscience of Human Relationships* (2006)-Louis Cozolino

*Parenting from the Inside Out* (2003)-Daniel J. Siegel M.D., & Mary Hartzell, M.Ed.

*Affect Regulation and the Origin of the Self* (1994)-Allan N. Shore

<http://www.cbd.ucla.edu/>

# Roots of the Program: The Literature

## **Collaborative Problem Solving**

Lost at school (Revised 2nd edition-2009)-Ross Greene

Explosive Kids: The Collaborative Problem Solving Approach (2006)-Ross Greene & Stuart

Ablon

The Explosive Child (Revised 3rd edition-2005)-Ross Greene

<http://www.livesinthebalance.org/>

<http://www.thinkkids.org/>

## **Traumatic Brain Injury**

*Guidelines for Supporting Students with Self-Regulatory Weakness (2006)-Mark Ylvisaker*

<http://www.projectlearnnet.org/>

# Roots of the Program: The Literature

## **Executive Skills**

*Executive Functions* (2012)-Russell A. Barkley

*Executive Skills in Children and Adolescents* (2<sup>nd</sup> Edition-2010)-Peg Dawson and Richard Guare

*Prompting Executive Functioning in the Classroom* (2010)-Lynn Meltzer

*Smart but Scattered* (2009)-Peg Dawson and Richard Guare

"New Perspectives on Educating Children with ADHD: Contributions of the Executive Functions" 5 (2002)- Gerard Gioia & Peter Isquith

## **Cognitive Behavior Approaches**

*Evidence-Based Psychotherapies for Children and Adolescents* (2010)-John R. Weisz & Alan E. Kazdin



# Roots of the Program: The Literature

## **Emotional/Arousal Regulation**

*The Zones of Regulation: A curriculum designed to foster self-regulation and emotional control* (2011)- Leah M. Kuypers, MA Ed. OTR/L

*Dialectic Behavior Therapy-Children and Adolescents* (2008)-Connie Callahan, Ph.D., LPCC, LMFT

*How Does Your Engine Run-A Leader's Guide to The Alert Program for Self Regulation* (Revised Edition-1996)-Mary Sue Williams, OTR/L & Sherry Shellenberger, OTR/L.

*Skills Manual for Treating Borderline Personality Disorder* (1993)-Marsha M. Linehan

[www.gonoodle.com](http://www.gonoodle.com)

## **Social Skills/Social Cognition**

*Social Behavior Mapping* (2007)-Michelle Garcia Winner

*Thinking about You Thinking about Me* (2007)-Michelle Garcia Winner

*Think Social* (2005)-Michelle Garcia Winner

<http://www.socialthinking.com/>

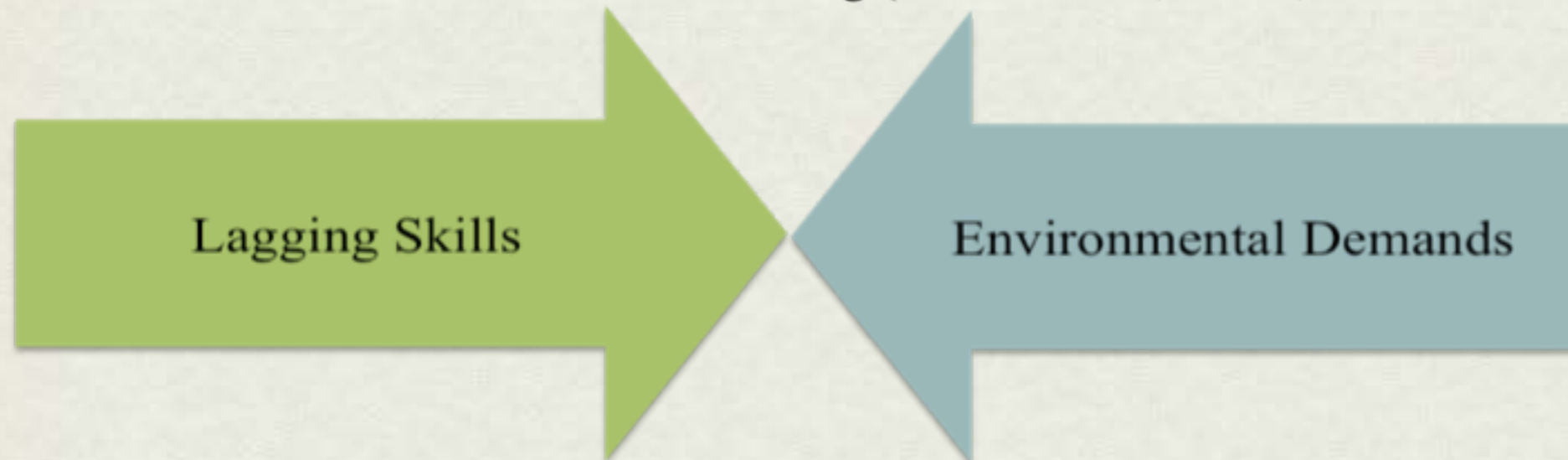
# NDS Assessment: The Process

- Develop a neuro-developmental skills package and the demands that impact those skills.
- Often the Thinking Skills Inventory can “over-shoot” our students.
- This disconnect lends itself to dysregulation.

# THINKING SKILLS

## BASIC ASSUMPTIONS

From Collaborative Problem Solving (Ross Greene, Ph.D., 2010 version)-



“Challenging behavior occurs when the cognitive demands being placed upon a person outstrip the person’s capacity to respond adaptively.”

“Unsolved Problems: the specific conditions in which the demands being placed upon a person exceed the person’s capacity to respond adaptively.”

“Behind every challenging behavior is a lagging skills and a demand for that skills (i.e., an unsolved problem)”

# Trauma informed Adjustments

~Tishelman, O'Brien & Blaustein (2012)

Domains	Core Issues
<b>Self Regulation</b>	Deficits in emotion identification Hyper-vigilance to threat Impaired ability to modulate arousal Extreme mood states Dissociation
<b>Physical Functioning</b>	Disconnection from body Physical holding of stress Physical Integrity/boundaries Trauma-related injuries
<b>Relationships</b>	Sense of self Trust and safety Social skills and competence
<b>Academics</b>	Information processing Language development Executive functioning World view and personal agency Learning disorder

# Classroom Demands

(Robinson & Ashby)

## Self Management

- \* Manage arousal level and attention
- \* Manage affect (esp. anger/frustration)\*
- \* Initiate self-calming strategies
- \* Follow expectations/rules
- \* Negotiate/compromise
- \* Accept feedback/criticism/assistance\*
- \* Cooperate with others (peers/adults)
- \* Remain organized (time/materials)

## Academic

- \* INITIATE TASKS AND ASSIGNMENTS
- \* COMPLETE TASKS AND ASSIGNMENTS
- \* CARRY OUT DIRECTIONS/INSTRUCTIONS
- \* ASK FOR CLARIFICATION/ASSISTANCE
- \* RESPOND TO TEACHER QUESTIONS
- \* AGE APPROPRIATE STUDY SKILLS
- \* USE FREE TIME PRODUCTIVELY

## Peer Relationships

- \* Have positive peer interactions
- \* Invite others to interact (e.g., play games)
- \* Tolerate competitive activities/tasks
- \* Tolerate behavior and perspective of others
- \* Compliment others
- \* Offer help to others

# Classroom Demands

(Robinson & Ashby)

## Compliance

- \* FOLLOW RULES/DIRECTIONS
- \* REMAIN IN THE RIGHT PLACE AT THE RIGHT TIME
- \* FOLLOW A SCHEDULE
- \* REMAIN ON TASK AND WORKING
- \* SHARE MATERIALS/SPACE WITH OTHERS
- \* RESPOND APPROPRIATELY TO FEEDBACK
- \* COMPLETE TASKS AS ASSIGNED

## Assertion

- \* EXPRESS FEELINGS APPROPRIATELY
- \* JOIN ONGOING ACTIVITIES
- \* INITIATE CONVERSATIONS
- \* INTRODUCE SELF
- \* ACKNOWLEDGE COMPLIMENTS
- \* PRESENT AS SELF-CONFIDENT
- \* DEVELOP FRIENDSHIPS

# Example: Adjusted Thinking Skills Inventory

# Program Basics~

## The 9 Steps to An NDS classroom

1. From the philosophy of “Kids do well if they can” we are extremely focused on pristine development of an individual student’s neuro-developmental skill package and the demands that overwhelm them.
2. If the CPS Thinking Skills Inventory “overshoots” our students, we experiment with assessing foundational neuro-developmental skills. If we focus on accurately describing these skills we re-stabilize and get students back on the skill-developmental track.



# Program Basics~

## The 9 Steps to An NDS classroom

3. Due to working with students in a group setting, we do an aggregate neuro-developmental skills assessment for classes, activities and the program at large.
4. Based on aggregate neuro-developmental skills assessment, a classroom ecology is development, thus decreasing the skills and demand incompatibility.
5. Our structure, routines, consistent adult responses and care-giver affect management strategies are based on this analysis. We know we have hit the mark with skills-demands compatibility when we have challenging behaviors at a level that essentially allows students to feel safe and optimally utilize their thinking skills.

*Treating Traumatic Stress in Children and Adolescents (2010)-Margaret E. Blaustein & Kristine*

# Program Basics~

## The 9 Steps to An NDS classroom

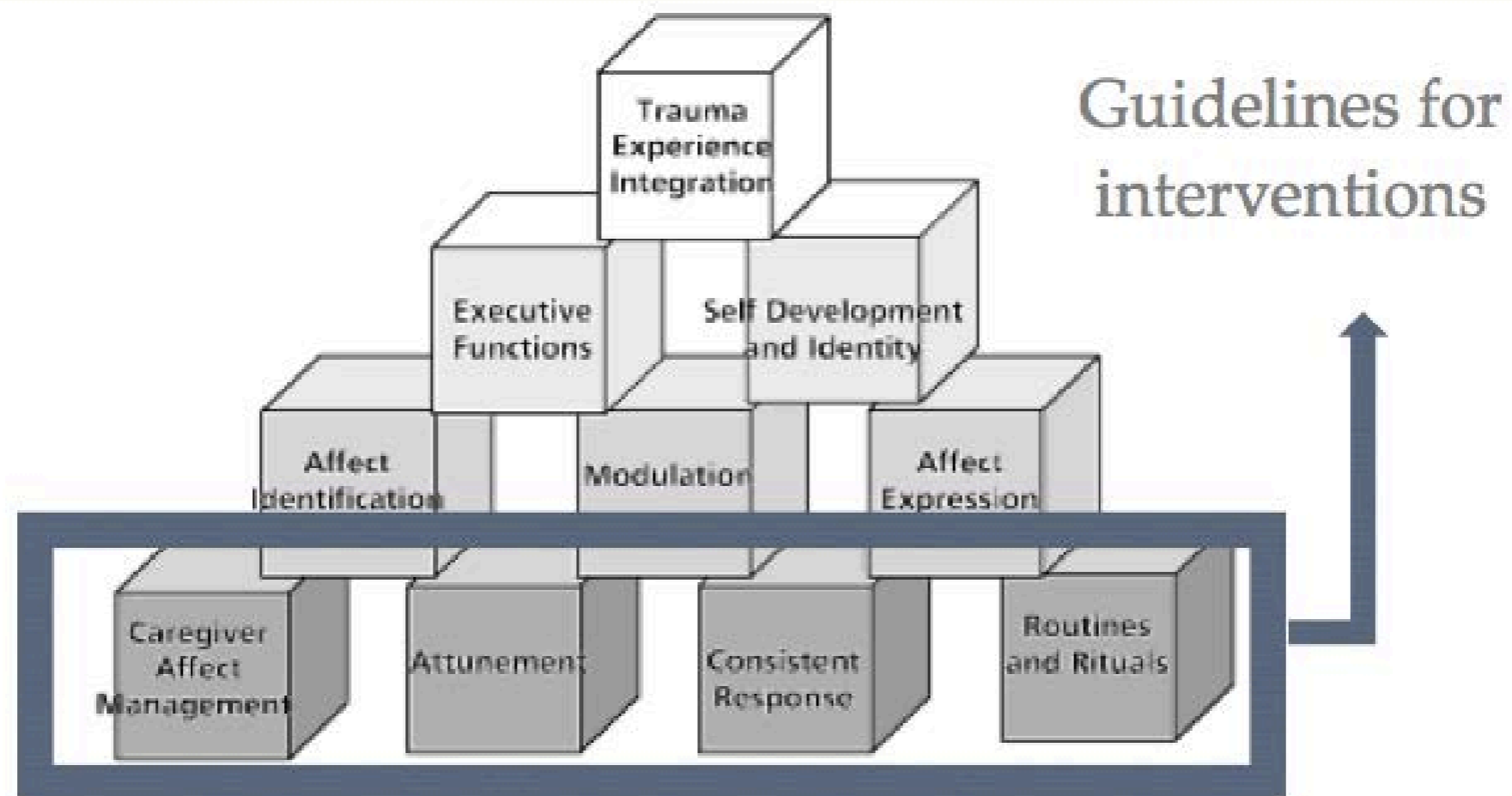
6. Utilize strategies to embed skills instruction in the daily routine.
7. With respect to direct instruction strategies Michelle Garcia Winner's, Social Thinking curricula, for example, have been adapted for use with our students.
8. Patterned, repetitive regulating activities are interspersed throughout the day, striving for a "top down" regulation strategy, but often use "bottom up" regulation strategies to help us get there (Bruce Perry).
9. Given these strategies, we have most kids consistently meeting adult expectations and developing a lot of "foundation" skills through the direct and imbedded skills training process. This allows us to shy away from emergency plan B and focus on proactive plan B (with individual students, and at times with a class or small group of students). In addition, these strategies help us establish an interpersonal template with our "high ACES" kids that allows them to more readily accept a plan B invitation without becoming hyper-aroused or dissociated.

# Program Basics~Day to Day Strategies

- Instruction and skill development completed in groups.
- Interspersed regulating activities throughout the day.
- Whole class skills assessment completed to develop appropriate routines based on students skills.
- Classroom analysis based on Structure/Routine, Caregiver Affect Management, Attunement and Consistent Response.

**Example 1:**  
**Aggregate Skill Analysis and Routines**

# PARADIGM FOR AISP



Blaustein, M. E., & Kinniburgh, K. M. (2010). *Treating Traumatic Stress in Children and Adolescents: How to Foster Resilience through Attachment, Self-Regulation, and Competency* (First ed., pp. 35-41). New York, NY: The Guildford Press.

## MORNING ROUTINE

Enter the room Silently

- Sit in GSP



- Make Relaxation Choice.



- Silently do activity.



Eat Breakfast, then  
pick activity.

The team of teachers  
will check in with you  
about...

1. Lockers
2. Lunch
3. Free Choice Time

# The Morning Routine

# The Day to Day: In Context

- **Attunement: Building Safe Relationships with Students.**
- **Awareness of ACE's and Neurological Impact.**
- **Skill Instruction imbedded within the structure of the day.**

# The Day-to-Day Goal: Increasing the Comfort Zone (Perry)

## **Developmental Comfort Zone**

- Developmental skills in physical, emotional, behavior, social and cognitive domains that have been mastered.
- Familiar, safe and well-known (environment)

## **Developmental Hot Zone**

- The set of physical, emotional, behavior, social and cognitive capacities that are actively being learned.
- These categories are “potential.” They are possible due to previous achievements but have yet to be mastered.

## **Developmental Cold Zone**

- Impossible demands and challenges.
- Mis-matched with current developmental capacity.
- Too much time in these situations “freezes” enthusiasm, curiosity and developmental progress.



# The Arousal Continuum

## Student Arousal Continuum

Student \_\_\_\_\_ Date \_\_\_\_\_  
 Class \_\_\_\_\_ School \_\_\_\_\_  
 Revision dates \_\_\_\_\_

STUDENT AROUSAL LEVEL

Arousal Continuum	General Behavior Description	Student Behavior Description	Staff Response
TERROR-REFLEXIVE-BRAINSTEM	Crisis		
FEAR-REACTIVE-MIDBRAIN	Higher Intensity/ Less Predictable Behaviors		
ALARM-"EMOTIONAL"-LIMBIC	Increased Frequency Of Lower Intensity Behaviors		
ALERT-CONCRETE-SUBCORTEX	Lower Intensity/ More Predictable Behaviors		
CALM-ABSTRACT-NEOCORTEX	On Task/ No Behavior Problems		

STAFF REGULATING RESPONSE

# Direct Instruction-NDS Skills

- **Direct Instruction Strategies**
  - **Michelle Garcia Winner: Social Thinking Strategies**
  - **Interpersonal Neurobiology**
  - **Integrated/Differentiated**

# Imbedded Skill Instruction

**Video: Shannon Ashby**

# Academic Instruction

- Specially Designed Instruction: Scaffolded instruction designed from the common core curriculum.
- Small group instruction given with interspersed regulating activities.
- Instruction given at students skill level.

# Academic Instruction

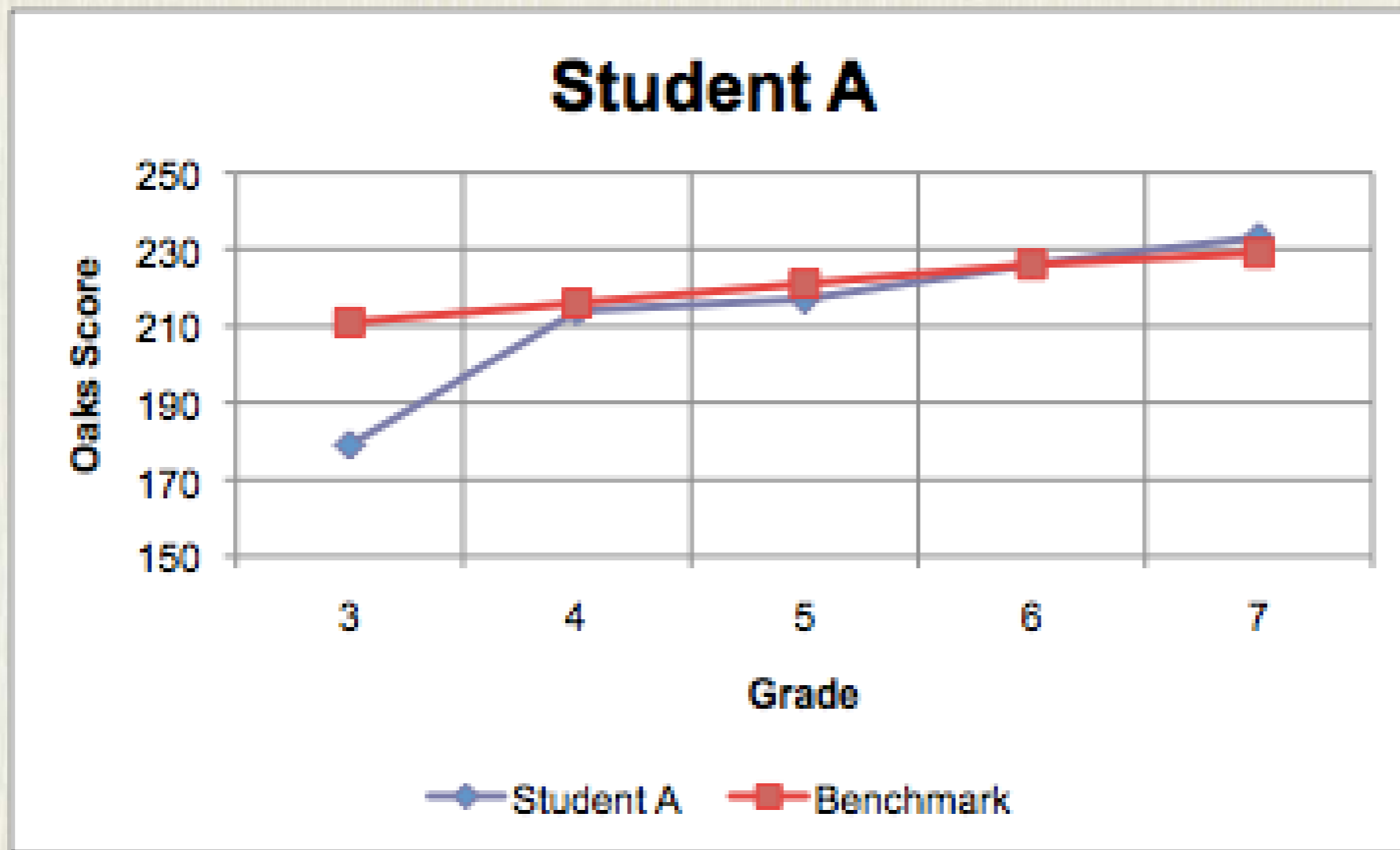
- **Video:Shannon Ashby**

# Academic Results

	Target	Benchmark	Actual Score
A	215	226	222
B	No Data	226	228
C	227	229	233
D	No Data	232	215
E	215	226	219
F	230	232	226
G	224	229	227
H	No Data	229	214
I	221	226	232
J	No Data	226	216
K	221	226	234

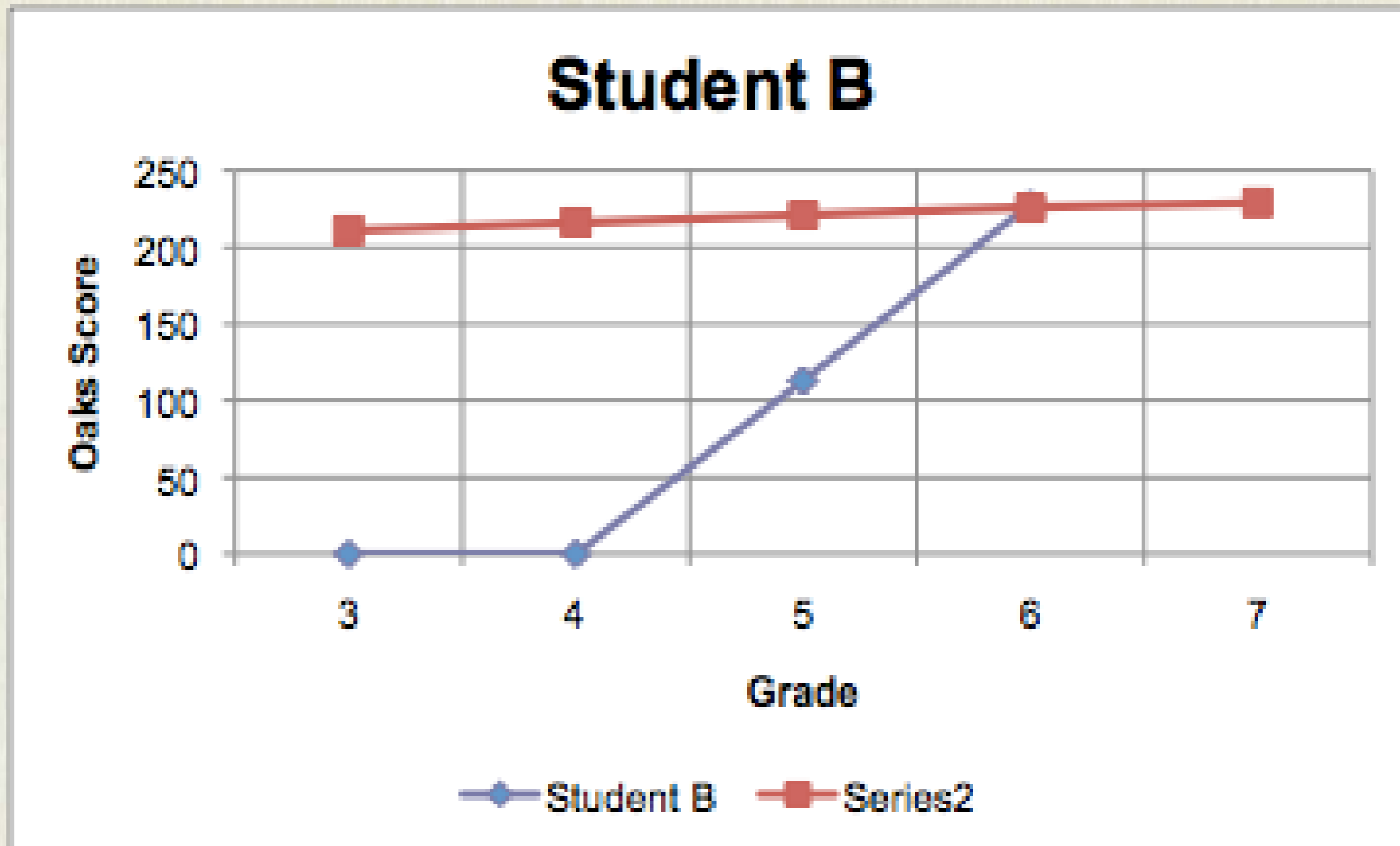
**\*90% Met Targeted  
Growth Score**

**\*36% Met Benchmark**



Individual Student Data

*OAKS Test Growth*

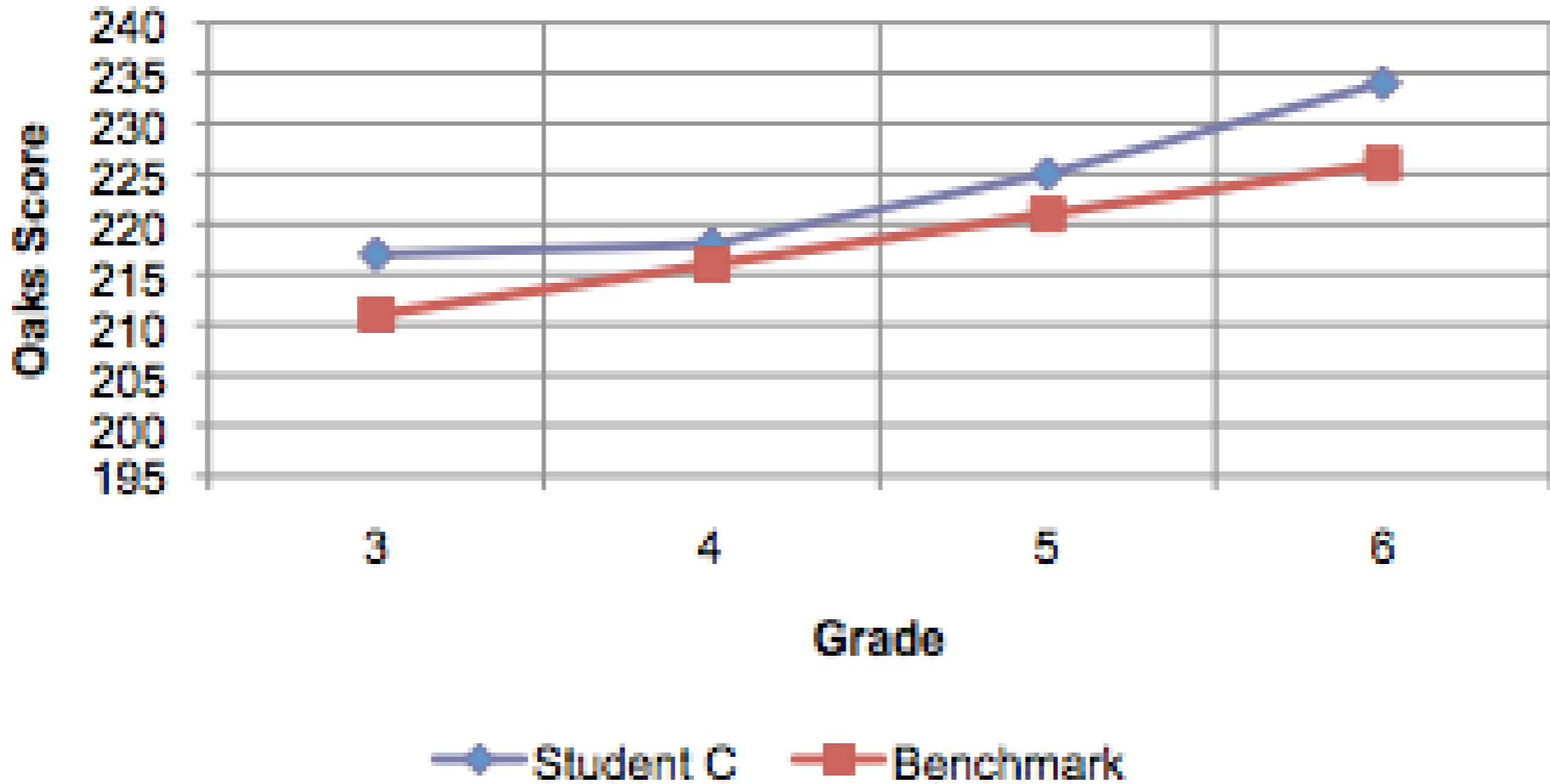


Individual Student Data

*OAKS Test Growth*



# Student C



## Individual Student Data

*OAKS Test Growth*

***Any Questions?***