Preparing Students for the 21st Century

- What we know now
- What the students need in order to learn
- What they are telling us
- What are our key principles
- The necessary components of a school program
- Preparing for transition from school
- Training and Supervision
What We Know Now

The Neurology/Sensory-Motor

Advances in neuroscience continue to validate that neuroplasticity and neurogenesis occur in response to emotional experiences, movement, thought, and interconnectivity.
Sensory Integration and Modulation

The child’s unique way of taking in information (both coming from the outside world and from within) and organizing this information in a way that is meaningful and allows the child to stay calm, regulated and engaged with the world around them.

Motor/Praxis (Action based on will)

Student’s ability to:
- Have the idea
- Plan, sequence
- Initiate
- Execute
- Adapt, accommodate
- Terminate

Auditory

- School environments can be very loud and overwhelming
- Auditory discrimination may make it hard to attend to the teacher/activity
- How the child’s auditory processing may impact comprehension
Visual-spatial Capacities and Thinking

- Ocular motor skills
- General movement; synchronization, coordination, etc.
- Visual and logical thinking
- Ability to visualize and sequence thoughts
- Ability to see the “big picture”

Comprehension

Student’s comprehension of:
- Experiences
- Interactions
- Directions
- Concepts and academic content
What We Know Now

Students with ASD often avoid certain experiences, and overindulgence in others leading to "experience gaps/gaps in background knowledge"

Gaps in background knowledge to support comprehension

• Exposure
• The Experience/Participation
• Visual Memory
• Motor Mapping
• Emotional Meaning

• They fall back on rote facts, compensatory strategies

Comprehension

Student's may not only have gaps in background knowledge needed to gain meaning from experiences/academic content, they also lack the strategies needed to support understanding (e.g., using the context to gain meaning) and the ability to integrate with other knowledge
What We Know Now

- Competency/Intelligence/Respect/Expectations
- Engagement, behavior, sense of self, respect, social abilities, etc. are all impacted by our beliefs and our expectations within interactions, academics, etc.

Accessing Intellect

Many individuals with ASD are extremely intellectual and some gifted. There is a desire to learn, however severe deficits in developmental milestones need to be strengthened and capacities integrated. This in turn, supports a student’s ability to connect ideas and demonstrate their knowledge.

Gaps in Developmental Foundations →
- Decreased Interconnectivity in the Brain
- Decreased Opportunity to Learn and Connect with the World

Kelly’s Math 2
Tapping in to Each Individual’s Communication System

- For student’s without strong verbal language:
  - We cannot judge the book by its cover!
  - They hear and take in everything!
  - We should talk to them, explain what is going on, include them as we do verbal individuals
  - We must give work at intellectual levels that are respectful, stimulating and challenging
  - Work may need to be modified to allow for success
  - Augmentative devices or typing facilitators need to be available at all times so there is no limit to participation and things they want to share

What We Know Now

What Children Need in Order to Learn

- Connections: **Relationships!**
- To **feel safe**
  - To allow them to think
  - To allow them to want to express their ideas
- To **feel smart**

What We Know Now

Affect, Emotions and Learning

- Experiences and learning MUST be meaningful
- We need the “gleam in the eye” and the “Ah ha moments”
- “Their has to be an emotional connection in order for the child to make a concept his own!” Greenspan
What We Know Now

Behavior/Anxiety vs. Regulation and Engagement

“Your students are so engaged! Where are the behaviors?”

• **Bottom up regulation**
  – Sensory/Motor supports/Visual supports

• **Top down regulation**
  – Understanding/Respect/Communication/
    Intellectual stimulation/Challenge/
    Emotion/Motivation

What We Know Now

ASD as a disorder of integration

- Learning requires the **WHOLE BODY**:

  - **Mind, Body, Emotion**
What We Know Now

Integrated Approach

- Educators
- Speech and Language
- Physical Therapy
- Occupational Therapy
- Mental Health/Counseling
- Medical
- The Arts
- Family Supports
- Other
...not compartmentalized

What We Know Now

What does the world want? / 21st Century Skills

(Claudia Wallis-Time Magazine)
- Independent thinkers able to ‘think outside the box’
- Emotionally intelligent
- Able to think globally, about their universe
- Understanding and access to the resources available to them in the world
  - Smart about new resources and able to determine what is useful/reliable or not
- Strong use of technology
What We Know Now

- What does the world want? 21st Century Skills

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What We Know Now

- What does the world want? 21st Century Skills

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What We Know Now

- What does the world want? 21st Century Skills
What We Know Now

What does the world want? 21st Century Skills

The Aim of the Program is to Produce Children Who:

• Are Well Regulated
• Have Healthy Relationships
• Have a Good Self Esteem and Positive School Experience
  • Have a Strong Sense of Self and are Independent
  • Are in Touch with Their Emotions
  • Are Independent Thinkers and Problem Solvers
  • Are Prepared Emotionally, Socially, Behaviorally and Academically for Less Restrictive Environments

The Critical Components of Developmental Programs for All Children
Given what we know now, how do we balance our educational models to strengthen developmental foundations and support functional outcomes, independence and acquisition of skills.

How does what we know guide what we do?

Principles and Strategies for the “Thinking Classroom”

Insights from an Educator

Nick Clip: Perspective from Public School Teacher
Experience – From Exposure to Discovery

We use social interaction to help children draw upon experience to generate new knowledge and change understanding and conceptualization of the world around them and how they feel. It is not a matter of conditioning to change behavior but drawing upon personal experience which creates need and desire to learn. Moving from exposure to discovery is a process whereby the child changes as a result of experience, not direction. The student must have a wide range of shared experiences.

Serena Wieder 2011

Supporting Functional Outcomes

At the most basic level, in a school setting, you may see a child who presents very compromised in their abilities:

- Sit at a desk and attend to a classroom teacher
- "Listen" and follow directions
- Be independent
- Display the motor capacities needed to be successful in school: read, write, navigate the classroom environment appropriately to be independent, sequence ideas, answer questions, THINK etc.

It is important to ask…

Why?

How can we create experiences and pathways to support development and functional outcomes in all areas?

Principles

- Respect and Support for Individual Profiles/Differences and Learning Styles
- Relationships and pleasurable interactions support feelings of
  - Safety and security
  - Trust
  - Motivation
  - Positive sense of self
Principles

- Takes advantage of spontaneous opportunities to
  1. Foster relationships
  2. Elicit students to be intentional
  3. Promote problem solving
  4. Encourage the elaboration of ideas
  5. Support the ability to give reasons to support ideas and connect ideas logically
  6. Encourages reflection and "thinking about thinking"

Teachers have to be flexible and think on their feet!

Principles

- Floortime and structured activities should allow learning to unfold and shouldn't be rushed
- The continuous flow of interactions allows students to become intentional and capable of generalizing and abstracting

Principles

- "Cognitive and emotional development are dual processes that are linked together,"
  (Dr. Wieder)
Casey - Clip 1 Younger

**Regulation/Engagement /Intentionality**

**Targeted**

- Regulation and Shared Attention
- Engagement/ GLEAM IN THE EYE
- Intentionality

Can I Support the child to connect with me and filter out stimuli that is very disorganizing. Through that ability to connect for longer periods of time, stimuli is filtered out naturally and interconnectivity occurs! Then we expand- Child becomes more intentional and able to access gestures and motor planning to execute ideas.

** Foundation that is needed before this child could have been expected to sit at a desk and truly learn.

**Strategies**

- Followed child’s lead
- Face-to-face
- Activity was emotionally meaningful and motivating on many levels
- Used affect to support child’s regulation: “Woo child in”
- Used slow pacing
- Used Affect to support child to stay engaged through range of emotion
- Used praise to support self-esteem
- Allowed for processing time- allow for physical execution of idea
- Supported sensory profile by allowing for movement and pressure to organize
- Incorporated support INTO interaction, rather than taking child away and bringing her back
- Acknowledged child’s ideas
- Played ‘Dumb’ to encourage child to initiate
- Goals were developmentally appropriate
- Activity wasn’t important, rather what was happening within the interaction
- Did not rush child “up the ladder”
- Presumed the Child could be successful
Casey - Older

Functional Outcomes for Casey

• Able to sit and attend for 30+ minutes
• Able to follow multi-step directions/Focused
• Increased independence
• Not as prompt dependent
• Increased ability to Think AND Do
• Emotionally More Regulated/Less Anxious
• Increased use of Gestures
• Increased Affect to Support Intent
• Increased Language
• Increased Confidence and Self-Esteem
• Writing Skills Increasing
• Active Participant in semi-structured lessons
• Increased Social Skills/Has friends
• Demonstrates Ability to Read and Comprehension
• Grade level Academics

“All that is valuable in human society depends upon the opportunity for development accorded the individual.”

-Albert Einstein
Foundations to support higher level learning and thinking should never be skipped over. These include: Shared attention, Regulation, Engagement and Two-way interaction using gestures.

Continue to think ‘outside the box’ and progressively, given current research on ASD and brain development. Think about adding developmental components into existing programs to enhance learning.

Presume Competence. Make sure that students have the background knowledge and experiences to support goals and expectation. If they do not, we cannot skip over, but need to assess and target simultaneously.
Using Ideas

Targeted
- Regulation and shared attention
- Engagement
- Intentionality
- Shared Problem Solving and Complex Gestures
- Emotional Ideas

Strategies
- Activity was emotionally meaningful and motivating on many levels
- Created problems to elicit new ideas
- Made the idea his own (chase Eric)
- Affect and having fun kept the play going

Principles

- Affect is central to all learning
- Affective reciprocity allows students to find meaning and symbolize experience

PLAY is a critical stage of development. This is where learning to connect with the world and symbolize ideas materializes. This in turn strengthens higher level thinking in the years to come.

Play is strategy to support learning. All children connect with play. It is a natural motivator and vehicle for brain development.

The magic happens when the child connects.
Regulation/Engagement/Intentionality

**Targeted**
- Regulation and shared attention
- Engagement
- Intentionality

**Strategies**
- Activity was emotionally meaningful and motivating on many levels

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Lisa Gleam-Math

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Gleam in the Eye!

**Targeted**
- Conceptualization of a math concept/Knowledge
- Motor
- VS/Awareness
- Engagement/Peer Relationships
- Shared Problem Solving
- Self Esteem

**Strategies**
- Used the students’ passion to make the activity meaningful and motivating
- Was experience-based and required students to integrate and use a range of capacities
- High affect supported engagement
- Peer interactions were fostered
Principles

- Developmental/"Thinking" Curriculum
  - Instruction meets each student at their developmental level and challenges all capacities
    - Sensory, Motor and Visual-spatial
    - Socially and Emotionally
    - Communication and Language
    - Cognitively and Academically

- Process vs. Product Learning
  - Meaningful, experience-based and dynamic instruction supports "discovery" and comprehension
  - Figure out "HOW" they are smart

- Themes should be explored across curriculum and via a range of capacities and experiences to ensure comprehension
  - Helps students reach higher levels of problem solving, symbolic thinking and abstraction within a wide range of emotions
Principles

- Developmental/“Thinking” Curriculum
- Get out of the way and let them think—Inhelder
- Classroom should be a “democracy of ideas”
- The classroom should be a culture of shared learning by both students and teachers
- Asking the right questions to allow students to elaborate on their thinking

Kelly science weight
Making a Connection

They were studying mythology in another class. The student made the connection to a story about a character who was able to tell the difference between a metal with no value and gold because he knew the difference between gold’s density and the density of the other metal. Therefore, he was not fooled when someone tried to give him the other metal instead of gold.

Kelly Science

- Targeted
  - Science/Knowledge
  - Motor
  - VS
  - Shared problem solving
  - Critical Thinking

- Strategies
  - Experience-based
  - Building off prior knowledge

  - Intellectually challenging activity
  - Asking the right questions to promote higher level thinking
  - Connecting discoveries with scientific theories and data
  - Trial and error learning
  - Teacher and student learning together

Lesson Planning to Support ALL Areas of Development

- Intrinsically motivating/meaningful
  - Passions/Emotional connection
  - Developmentally appropriate/Differentiated/Stimulating
  - Connecting to background knowledge
  - Challenge all capacities/Whole body thinking/Interdisciplinary
  - Conceptual development
  - Cross curricular content
  - Broader themes
  - Broadening perspectives
  - Connecting concepts across time and space

- Critical Thinking
  - Building bridges between past, present and future
  - Peer collaboration/Shared goals and problem solving
  - TOM
  - Self reflections and evaluation/Editing
  - Self awareness/Disclosure/Learning style
  - Expanding communities/Generalizing to other people and settings
  - Global connections
Existence of Santa Claus

The Santa Claus Debate

**Targeted**
- Taking different perspectives
- Framing from another perspective
- Playing devil’s advocate
- Effective communication skills
- Accepting ideas of others
- Integrating your ideas/beliefs with peers
- Visual spatial thinking
- Comparing
- Similes/figurative language
- Answering why questions/Building logical bridges
- Co-regulation/Emotional regulation

**Strategies**
- Group dynamics/Social roles
- Taking advantage of a spontaneous opportunity
- Building off interests/Motivations/Passions
- No right or wrong answer
- Student led, Not teacher led, Accessing thinking and facilitating as needed
- Supporting the thinking process/Process vs product
- Looking for those thinking moments/What does the thinking face look like?

Water Relay
Water Relay

Targeted
- Visual spatial
- Motor/fine/gross
- Engagement/Distractions
- Integration
- Understanding value/money
- Negotiate
- Predicting/Critical thinking
- Ranking/ordering
- Peer competition
- Self Evaluation
- Independence/Thinking
- Executive Functioning: What should I do next?

Strategies
- Age appropriate
- Affect driven/Cooking/Motivation
- Visual support
- Tempo/Rhythm
- Building off previous knowledge
- Real life experience
- Intellectually respectful
- Creating problems
- Continually upping the challenge based on the individual profile
- Discovery vs. teaching
- Teacher as facilitator of thinking
- "Lectureless"
- Peer feedback/Realistic results based feedback
- Teacher playing role

Sample Schedule

Continuing Education/Adult Curriculum Program

- Development
- Daily Living Skills
- Social Skills/Community Environments
- Continuing Education/Support/Counseling
- Mental Health/Counseling
- Career Development/Job Coaching

Daily Living Skills

Social Skills/Community Environments

Continuing Education/Support/Counseling

Mental Health/Counseling

Career Development/Job Coaching
New Jersey Core Curriculum Content Standards for 21st-Century Life and Careers

- **Mission:** 21st-century life and career skills enable students to make informed decisions that prepare them to engage as active citizens in a dynamic global society and to successfully meet the challenges and opportunities of the 21st-century global workplace.

- **Vision:** The systematic integration of 21st-century life and career skills across the K-12 curriculum and in career and technical education programs fosters a population that:
  - Applies critical thinking and problem-solving skills to make reasoned decisions at home, in the workplace, and in the global community.
  - Uses effective communication, communication technology, and collaboration skills to interact with cultural sensitivity in diverse communities and to work in cross-cultural teams in the multinational workplace.
  - Is financially literate and financially responsible at home and in the broader community.
  - Demonstrates creative and entrepreneurial thinking by recognizing and act upon promising opportunities while accepting responsibility for possible risks.
  - Is knowledgeable about careers and can plan, execute, and alter career goals in response to changing societal and economic conditions.
  - Produces community, business, and political leaders who demonstrate core ethical values, including the values of democracy and free enterprise, during interactions with the global community.

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**Program Tracks**

(Student May Have a Hybrid of Programs)

- College Prep
- Career Development
- Living Skills/Developmental Program
Interdisciplinary Work: Training and Supervision

- Leadership/School vision and philosophy
- New employees training and mentoring
- In-service trainings/Webcasts
- Interdisciplinary team meetings per child
- Classroom meetings
- Interdisciplinary reflective supervision/Case-based learning
- Teachers
- Mental Health
- Related Services
- Paraprofessionals
- Administration
- Parent Education/Coaching/Support/Counseling
- Professionals from outside/Other approaches

Teacher Supervision Reflection Questions

- How does this presentation build off past recommended actions?
- How was instruction differentiated?
- What modifications were used (e.g., Visuals, modified steps to a lesson, FC or access to augmentative device for lessons)
- How is this lesson connected to the students’ past knowledge? How does it build on prior knowledge, skills?
- How is the lesson meaningful to the students? How does it incorporate their passions?
- Are emotional connections being made? The light bulb lighting up? That “Ah Ha” moment: Are there opportunities for “Moments of Discovery” on the part of the students?
- How were visuals used to support comprehension?
- How was vocabulary reinforced?
- How were visual spatial principles incorporated?
Teacher Supervision Reflection Questions
Discuss the multi-sensory aspects of the lesson:
Did you work with any other disciplines when planning this lesson?
What resources were used to plan this lesson?
What peer opportunities were provided?
How did you assess comprehension?
How will this Support Future Concepts/Learning?
Comment on your ability to using the right pacing and affect, read the cues of the students, maintain regulation and engagement in the group, etc.:

Goals/Process/Exposure
- Supporting the individual profile
- Goals
  - Developmental DIR® Goals
  - IEP Goals/CCCS
- Process
  - The experience
  - The dynamic interaction where development occurs
- Opportunity/Invitation
  - Intellectual stimulation
  - Cognitive glue/The story that holds the interaction

“But, I Can't Do This in My School!”
What you are required to do
Create your goals here
What you know you should/want to do

Martha Stone Wiske, EdD
Measuring Progress
How do we really measure Knowledge?

Balancing Exposure to Intellectually Stimulating Material (assessed by using modified indicators such as ACC, visuals, etc.) with...

Measurable goals related to:
- Developmental (DIR)
- Standardized Assessments
- IEP Goals/CCCS-measurable goals on product

What We Know Now

Progress never stops!

Don’t be afraid to be a PIONEER!

- Every kid is an individual/One size does not fit all
- Don’t be closed to the possibilities and opportunities for all
- Research takes time to catch up
- If we just stay stagnant, there would never be any progress, we would just accept the here and now
- We have to be willing to take the risk!
Thank you!

- Drs. Greenspan and Wieder
- Profectum Faculty
- Students and Families of Celebrate the Children School
- The AMAZING and Passionate Teachers and Staff of CTC!