Educators describe the “ideal or ‘ideally intelligent’ student”

• Self-regulation, socially competent, respect rules.
• Verbal ability and fluency, confident to participate verbally, willing to learn from mistakes rather than fear them.
• Good problem solving and reasoning ability, think logically, broad knowledge.

Developmental sequence, within the context of industrialized, American culture (Fry, 1984; Harkness et al., 2007; Sternberg, 2007)
How do we help students with 22q11.2 DS succeed in these areas?

- Impressions from the CABIL Translational Clinic
- Evidence-based when available
Self-regulation: Yerkes Dodson Law

The association among sensory processing, sensory integration, attention, anxiety and performance-
“Arianne”

- This case illustrates the impact of sensory, attention and emotional dysregulation on functional living and risk behaviors, despite the presence of broadly average cognitive, language and achievement skills.
“Arianne”

- Background: 11y ♀, entering 6th grade (repeated 3rd), has an IEP due to SLI & possibly OHI (associated with ADHD- inattentive type dx)
  - WISC-IV Index scores range: 88 (WMI) to 106 (PRI)
  - WIAT-II Readg Compst= 97; Math Compst= 87
  - CELF-IV Core Language: 94
  - SCQ: 5
  - ABAS-II Conceptual= 70, Social= 58, Practical= 65
  - Short Sensory Profile: 5 of 7 areas probable to definite difference
  - Spence-child and -parent: 5 of 6 areas at-risk or clinically significant
“Arianne”

• Behaviors
  – **School**- Inattentive, oppositional, defiant. During 5th grade she closed herself in odd, tight, dark, compacted spaces. Assigned to ½-school-days. Difficulty advocating with school due to her adequate achievement.
  – **Home**- Inattentive, oppositional, defiant. Her main recreational activities involve using her blackberry or hand-held computer games. She took intimate, cell-phone photos of herself in order to become “popular.”
  – **Clinic**- Oppositional, tearful, defiant, “glaringly angry” with her parent. Arianne was easily flooded by task demands, low frustration tolerance.
“Arianne”

- Conceptualization: SI ↔ Anxiety if not managed → “inattentive”/noncompliant, oppositional/defiant behaviors, catastrophic reactions, bizarre coping responses
- Management involves caring for the individual as well as her system (e.g., how educators and parents interpret her behaviors).
“Arianne”

• **Management recommendations**
  – Inform school about 22q11.2DS and ed. needs.
  – Occupational Therapy with Sensory Integration emphasis.
  – Visual schedule. Chunk assignments into small units with breaks in between for SI activities.
  – CBT (e.g., Coping Cat) with family component.
  – Medication review/ modification.
  – Social Skills intervention.
Resource Examples

• Donna Cutler-Landsman, MS “Educating Children with VCFS”

• do2Learn visual schedule

• Classroom visual schedules

• Cognitive Behavior Therapy
  – Coping Cat, Camp Cope-A-Lot
    • Note that Camp Cope-A-Lot shows animated characters who think aloud and solve problems using a systematic structure.

• Social Skills see slide # 17
NVLD and Language

• Pragmatic language impairments are recognized frequently in NVLD (c.f., Forrest 2007). Other language impairments also may exist.

• Yet, as children with 22q11.2 DS mature beyond pre-school and early elementary years, less attention may be directed to language (as opposed to speech) impairments.
This case illustrates a youth who has significant language impairments despite VCI > PRI on the WISC-IV. Note that he has good rote academic and adaptive skills. The language impairments are present despite several years of participating in Special Education and private S/L interventions.
“Ward”

• Background: 11y, ♂, entering 6th grade, does not have an IEP but is tutored daily by private Educational Therapist and has weekly SL Tx
  – WISC-IV Index scores range: 68 to 78 (VCI= 75, PRI= 69)
  – WIAT-II Pseudoword Decoding= 101, Reading Comp= 72; Numerical Operations= 87, Math Reasoning= 55
  – CELF-IV Core Language: 54
  – SCQ: 2
  – ABAS-II Conceptual= 95, Social= 97, Practical= 72
  – SSP: 0 of 7 areas probable to definite difference
  – Spence-child and -parent: 0 of 6 areas at-risk or clinically significant
“Ward”

- Behaviors: Friendly, very quiet, cooperative, task-persistent. He displayed challenges in receptive and expressive vocabulary. For example he did not know the meaning of lumber or valuable. He confused “where” and “what.” He used nonspecific nouns such as “things,” “stuff.”
“Ward”

• Conceptualization: Intense, privately-funded, consistent services promote success in rote academic skills. However, academic tasks that require more abstract language and reasoning remain low.
Abstract reasoning

• “There are no known exercises in abstract thinking that have the effect of turning a concrete thinker into an abstract thinker across domains of content…. A person can be a reasonably flexible and abstract thinker in one area (e.g., sports) and remain a concrete thinker in another area (e.g., literature).” emphasis added (Ylvisaker, Hibbard, Feeney 2006)
“Ward”

- **Management recommendations:**
  - Continue w/ private SLP and Ed Thpst
  - “Apprentices in thinking” (Ylvisaker et al, 2006)
    - Adults/educators/therapists model thinking out loud in a manner that is organized and compelling and triggers the student’s own thought processes
  - Strategic Instruction Model (Univ. of Kansas Center for Research on Learning)
    - Provides systematic evidence-based curricula such as the “THINK” strategy to solve problems, “Organizing Together” to train organizing possessions, space and time, and “Possible Selves” to set goals and create plans
  - Social skills intervention to address language pragmatics (e.g., Michelle Garcia Winner)
  - Strategic Math Series and other strategies (e.g., paraphrasing, inference and visual imaging strategies) from the Strategic Instruction Model (Univ. of Kansas Center for Research on Learning)
Resource Examples


• Strategic Instruction Model
  – The University of Kansas Center for Research on Learning (2009) Strategic Instruction Model

• Michelle Garcia Winner
  – http://www.socialthinking.com/
Summary

• Consider that a nexus exists among sensory processing, sensory integration, attention, and anxiety. Multiple systems must be managed.

• Although students with 22q11.2 DS may (or may not) have NVLD, don’t forget language and its management (i.e., more than pragmatic language may be an issue).

• Systematic programs, with some evidence base, do exist to train students in the process of thinking, solving novel problems and planning for a functional future.