

**A Developmental Framework for Evidence-Based Practices
for the Autism Spectrum:
*The Importance of Social and Emotional Development (Part 1 of 2)***



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Learning Objectives

As a result of this activity, participants will be able identify critical priorities for educational outcomes for students with autism who are:

1. Before words and using gestures and facial expressions to communicate.
2. Using emerging language skills either via speech, pictures or other symbolic forms of communication.
3. Using conversational language to engage with a range of social partners.

“What Matters Most” – A Journey through Evidence-Based Practices



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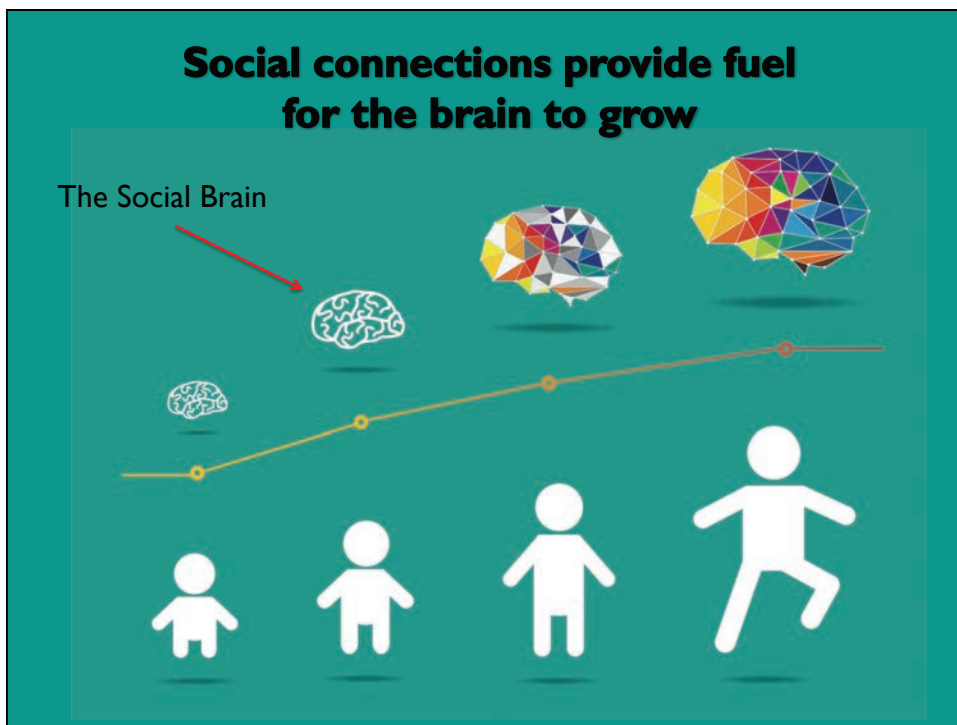


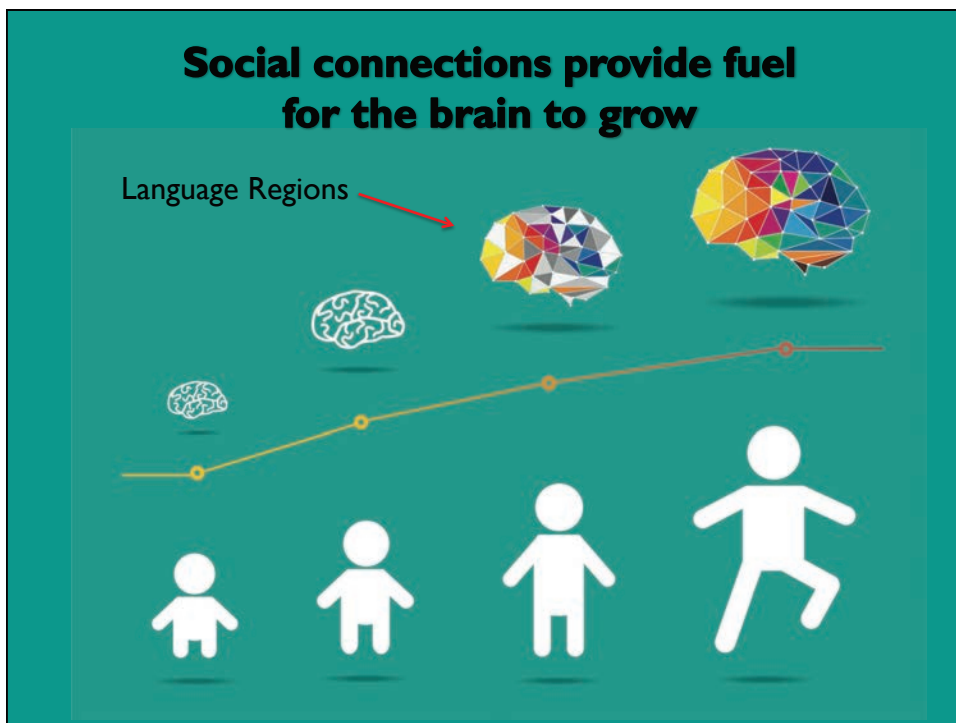
“What Matters Most” – A Journey through Evidence-Based Practices

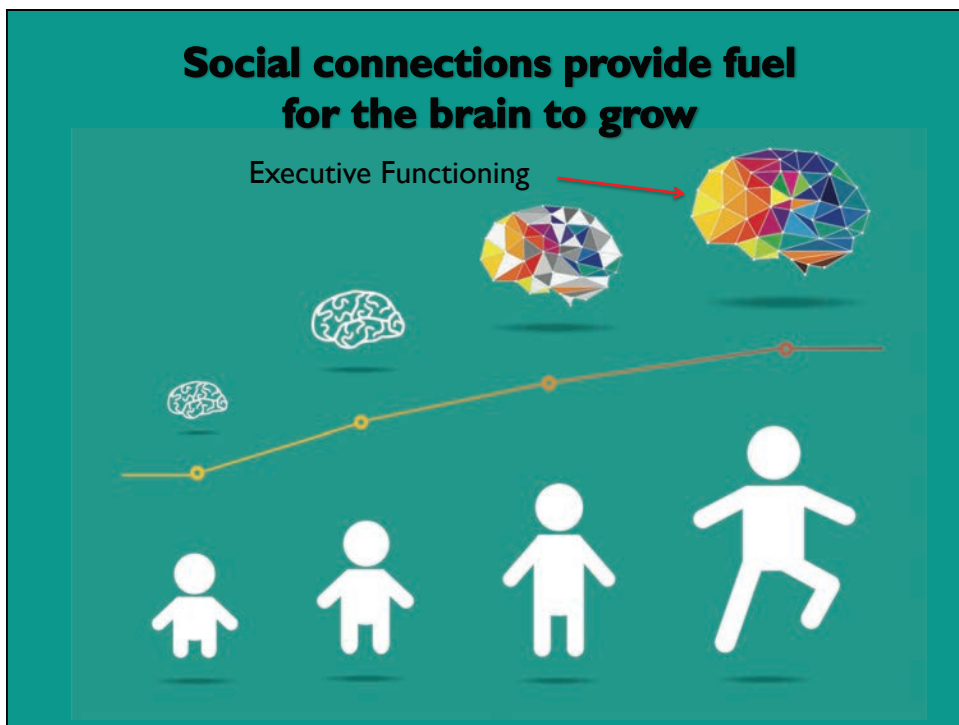


Research in social neuroscience provides us with a clearer path









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LETTER

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Attention to eyes is present but in decline in 2–6-month-old infants later diagnosed with autism

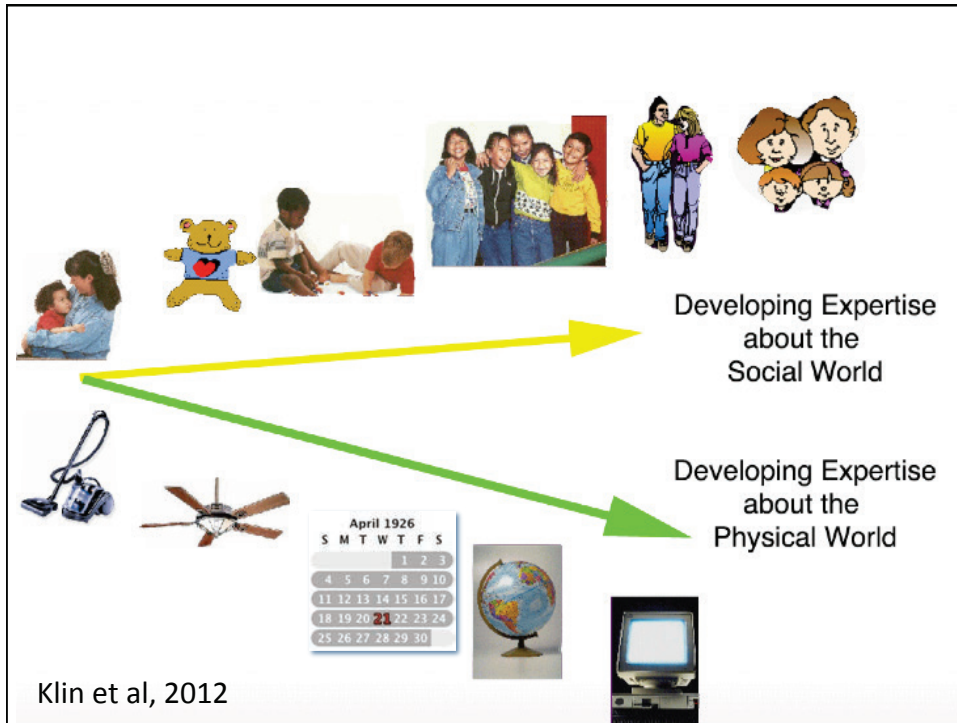
Warren Jones^{1,2,3} & Ami Klin^{1,2,3}

Deficits in eye contact have been a hallmark of autism^{1,2} since the condition's initial description³. They are cited widely as a diagnostic feature⁴ and figure prominently in clinical instruments⁵; however, the early onset of these deficits has not been known. Here we show in a prospective longitudinal study that infants later diagnosed with autism spectrum disorders (ASDs) exhibit mean decline in eye fixation from 2 to 6 months of age, a pattern not observed in infants who

Data were collected at 10 time points: at months 2, 3, 4, 5, 6, 9, 12, 15, 18 and 24. We studied 110 infants, enrolled as risk-based cohorts: $n = 59$ at high-risk for ASD (full siblings of a child with ASD¹⁹) and $n = 51$ at low-risk (without first-, second- or third-degree relatives with ASD). Diagnostic status was ascertained at 36 months. For details on study design, clinical characterization of participants, and experimental procedures, see Methods and Supplementary Information.

Research in social neuroscience provides us with a clearer path

- Children with autism tend to show less neural sensitivity to social stimuli in their early childhood (Elsabbagh, et al., 2012).
- Neurodevelopmental differences contribute to preferential attention for nonsocial stimuli, such as objects and toys, along with less orientation to social engagement (Klin, Lin, Gorrindo, Ramsay, & Jones, 2009).



“What Matters Most” – A Journey through Evidence-Based Practices

Lesson Learned

What we determine as a child’s targeted educational objectives should be as important as **how** we are providing accommodations.

“What Matters Most” – A Journey through Evidence-Based Practices

- There are more than two dozen different evidence-based focused practices (EBPs) that have been identified in several recent systematic reviews.
- These include, but are not limited to the use of focused strategies such as visual supports, technology assisted intervention, social narratives, cognitive-behavioral interventions, and naturalistic interventions involving modifications of everyday routines to promote communication and prevent challenging behaviors (Morgan, et al., 2014, Wong et al., 2013).

“What Matters Most” – A Journey through Evidence-Based Practices

- These strategies target a wide range of behaviors, some of which may or may not be relevant or of utmost priority, given the developmental needs of an individual, the requirements of a setting, and/or the preferences of those being supported
- Yet, these strategies enable us to work toward more evidence-informed comprehensive frameworks that are developmentally sensible (Rubin & Lewis, 2016).

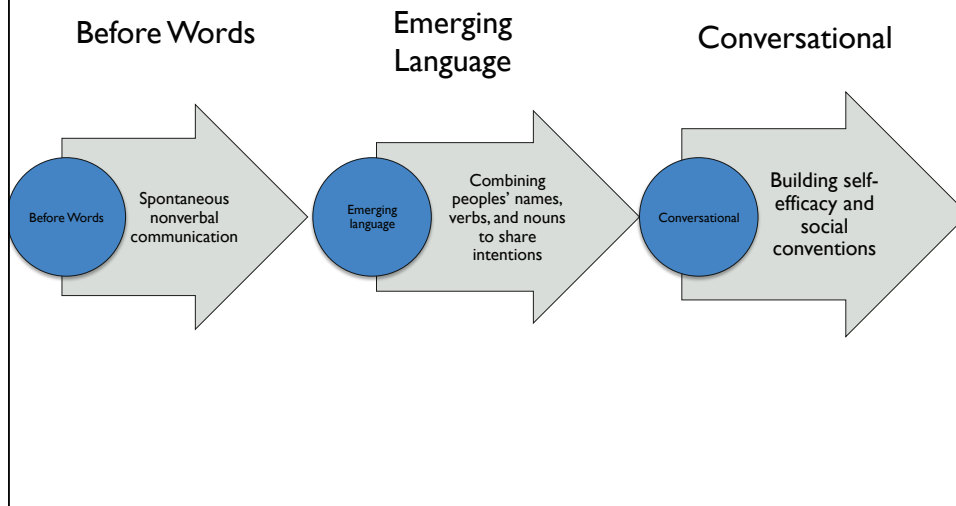
Designing an evidence-supported program Working “smarter not harder”

- Determination of *appropriate* specially designed instruction should be based upon the *unique needs* of a student that result from the *student’s disability* and that ensure access to the curriculum.
- Awareness of predictive skills at each developmental stage enables us to be better consumers of evidence-based practices and can provide more *value* in our educational plans.

Designing an evidence-supported program Working “smarter not harder”

- An example of an evidence-based comprehensive framework addressing these social and emotional outcomes includes the parent-mediated intervention of Early Social Interaction (Wetherby et al. 2014) and Classroom SCERTS Intervention (Sparapani, et al., 2015, Harrison, 2015 based upon Morgan, L. & Wetherby, A. 2015).
- These frameworks use the SCERTS Assessment Process to select critical research-based and developmentally sensible targets (Prizant et al., 2006).

How can we foster this social emotional growth?



Before Words Stage



Unique Neuroscience – Before Words

What does neuroscience teach us about students who are not yet talking or using symbols to communicate?

- Social stimuli may not be intrinsically rewarding; gestural communication is often delayed.
- As a high rate of spontaneous communication is predictive of language acquisition, we should be identifying focused EBPs that increase a child's bids for social engagement.
- Shumway, S. & Wetherby, A.M. (2009)

“What Matters Most” for a Before Words Student Sample IEP Goal & Aligned to *Speaking and Listening Standard*

Measurable Annual Goal: When provided with choices of highly engaging or soothing hands-on materials, student will initiate nonverbally using a shared facial expression or a give / point gesture X# times per activity across at least X# activities per school day in order to actively participate in communication exchanges with diverse partners (*SL – Speaking & Listening*).

Criteria for Mastery: X# of nonverbal initiations in at least X# of activities over 6 consecutive weeks.

**Shifting priorities from outcomes related to “things”
toward outcomes that relate to “people”**



Matching tasks



Initiating social routines

**Shifting priorities to outcomes focused on high rates of
spontaneous communication**



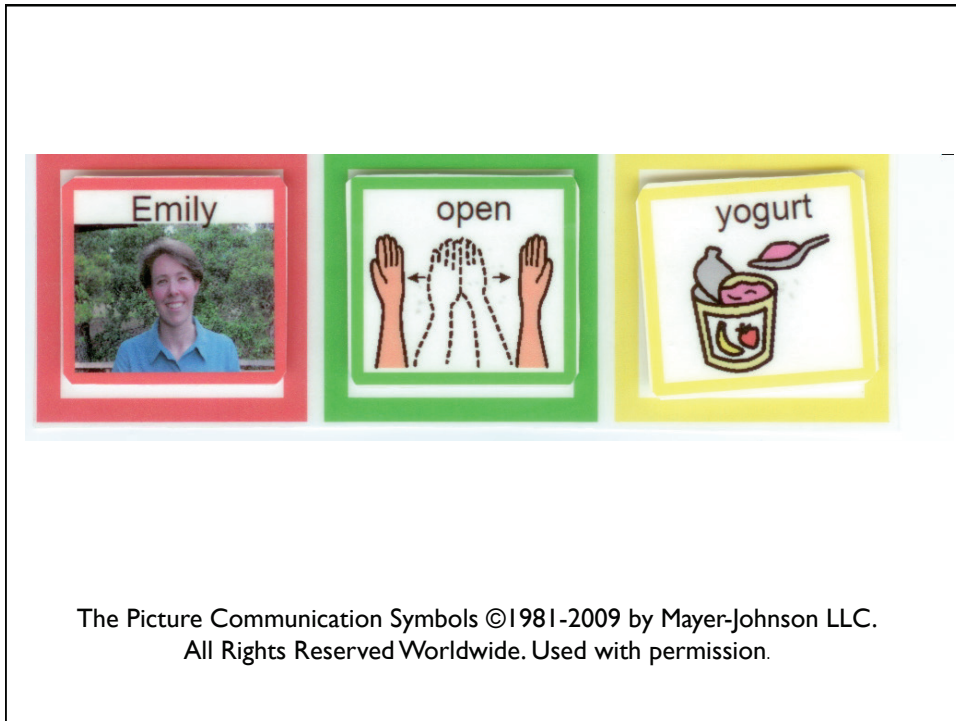
Emerging Language Stage



Unique Neuroscience – Emerging Language

What does neuroscience teach us about students who beginning to talk and/or using symbols to communicate?

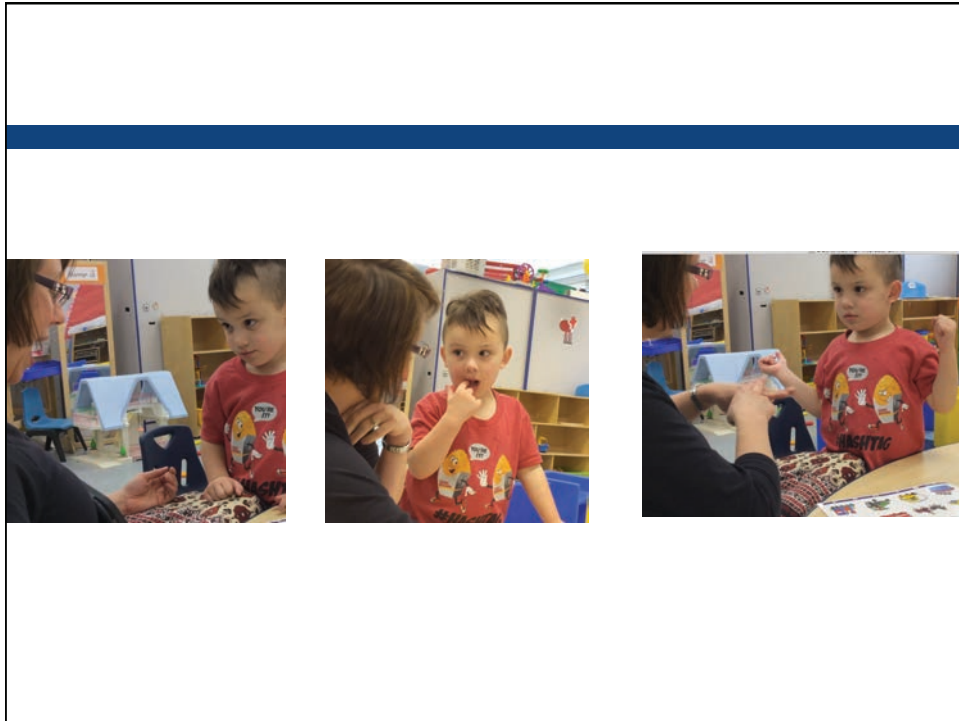
- Children at this stage use less gaze shifting and show a preference for nonsocial stimuli, so vocabulary is often biased toward nouns.
- As subject + verb word combinations are predictive of creative language acquisition, this outcome should be a critical priority
- ASHA practice portal (2016).



“What Matters Most” for the Emerging Language Stage
Sample IEP Goal & Aligned to *Speaking and Listening Standard*

Measurable Annual Goal: When provided with visuals (color-coded templates) and highly engaging materials, student will initiate using greater than X # of people’s names paired with verbs per activity across at least X # activities per school day in order to actively participate in communication exchanges with diverse partners (*EE SL – Speaking & Listening*).

Criteria for Mastery: X# of targeted word combinations in at least X # of activities over 6 consecutive weeks.



Conversational Stage



Unique Neuroscience – Conversational

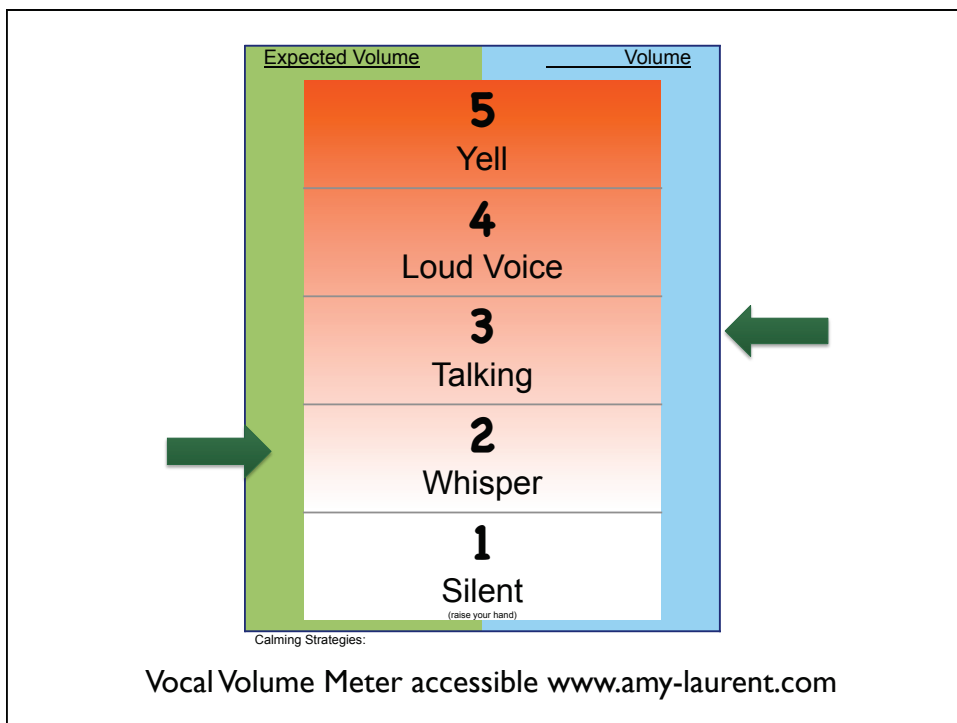
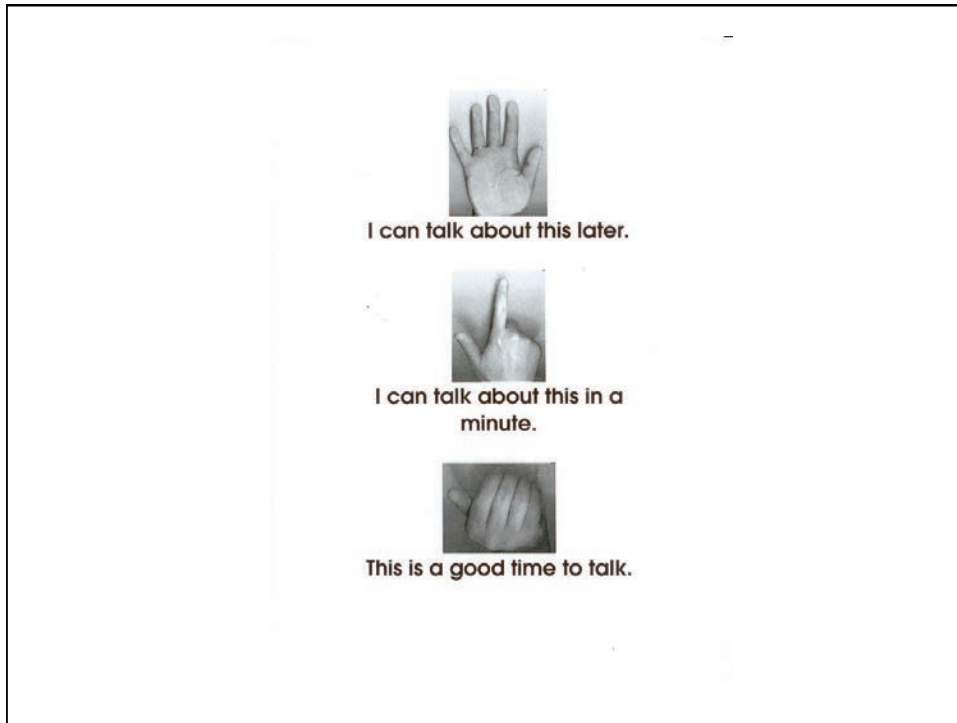
What does neuroscience teach us about students who have conversational language?

- Children at this stage have developed social motivation, but have difficulty predicting intentions and social expectations.
- Our priorities should be to build a sense of self-efficacy and target social norms, as these skills are predictive of both emotional health and social competence.

“What Matters Most” for the Conversational Stage Sample IEP Goal & Aligned to *Essential Element - Language*

Measurable Annual Goal: When provided with visuals and motivating materials, student will initiate conventional communication using effective vocal volume with peers and adults on X # occasions per activity across at least X # activities per school day in order to build on comments or topics initiated by adults and peers *EE – Language*.

Criteria for Mastery: X# of initiations using conventional vocal volume in at least X # of activities over 6 consecutive weeks.



To learn more, join us next week for Part 2

Next step: *Defining Engagement in Classroom Settings for Students on the Autism Spectrum*

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To learn more

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