

## Communication Assessment & Intervention Strategies: Getting Parents Involved

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## Learner Objectives

- Improve knowledge of pre-linguistic bases of communication and language development
- Improve knowledge of how recent development in understanding infant social and communication intents/skills relates to common childhood communication disorders.
- Improve knowledge of communication and language assessment strategies and tools
- Improve knowledge of a Social Pragmatic Language Intervention model.

## Early On Services in Michigan

- Federal mandate for assessment/intervention services: 0-3 and 3-6.
- Service delivery models vary widely.
- Critical Notions
  - At risk categories
  - 20% delay in development
  - Infant Family Service Plans
  - Natural Environments
  - Parent participation and involvement in the entire process.

## A Pragmatic Perspective on Language Acquisition

All aspects of language flow from a pragmatic base.

## Infant Skills that Contribute to First Language Learning

- Children come to acquire a language subsequent to significant developments in:
  - Intention reading
  - Pattern finding: categorization and statistical learning.
  - Social Imitation/role reversal imitation
  - Language development has a cultural base (Tomasello, 2003).

## What is "secondary intersubjectivity?"

- Subjectivity -> individual consciousness and intentionality
- Intersubjectivity -> subjectivity and adapt/fit subjective control to the subjectivity of others (e.g., predict others, peek-a-boo).
- Secondary intersubjectivity -> integrating objects into interactions, i.e., person-person-object awareness.
- Myth of the isolated mind.

### **Communicative Intentions Tomasello 1999.**

- Underlying structure of a communicative intention is "She intends that I attend to X (and wants us to know this together) for some reason relevant to our common ground."
- You intend for {me to share attention to (X)}
- The understanding of a communicative intention must have this structure.
- Not merely producing gestures or words.

### **Different levels of goals/intentions. Tomasello et. al., 2007**

- Individual Goals- the state of the world C wants
- Social intentions/Motive- what C wants R to do/feel/know. Often expressed in some form of facial or other emotional expression (physical act)
- Communicative Intention- that C and R know together that C is attempting to communicate, so that R will attend to the referential act and thereby work to infer C's social intention. Often expressed as ostensive eye contact.
- Referential intention- that R attend to a specific referent, either gesture or word.

### **Communicative Competence: 9-15 months (Carpenter et al., 1998).**

- Onset of understanding others as intentional
- Sharing attention (i.e., joint engagement): share attention to object with partner.
- Following attention: follow gesture/eye gaze of partner to an object
- Direct attention; use nonverbal gestures/words to direct partner's attention to an object
- Different manifestations of understanding others as intentional agents.

### **Communicative Competence: 9-15 months (Carpenter et al., 1998).**

- Sharing attention; extended episodes of child-caregiver engagement in which both partners share attention to an object of mutual interest over a measurable period of time.
- Infant looks from toy to adult's face and back to the toy. Looking demonstrates awareness of adult, must look back to the object.

### **Communicative Competence: 9-15 months (Carpenter et al., 1998).**

- 24 dyads, 7 sessions each month between 9 & 15
- Experimental tasks, MCDI:WG
- Age of Emergence (AOE); joint engagement 9 months; following attention-point 11.7 months, gaze 13 months.
- Communicative gesture AOE (directing attention); show 10.7 months, give 12 months, point 12.3 months
- Communicative gesture AOE; declaratives 10.3 months; imperative (requestives) 12.7 months

### **Communicative Competence: 9-15 months (Carpenter et al., 1998).**

- General order of emergence
  - Joint engagement 9 months
  - Communicative gestures (attention directing) 10.3 months
  - Attention following 11.5 months
  - Referential language > 15 months
- Joint engagement and maternal following (i.e., talk about child's object) significantly related to MCDI word comprehension.

### Infant Pointing: A closer look Tomasello et al., 2007

- Socially learned, intersubjectively shared
- "If you look over there, you'll know what I mean"
- Is infant attempting to influence mental states of others or achieve behavioral effects?
- Human motivations for communicating are cooperative (Grice, 1975).

### Infant Pointing: A closer look Tomasello et al., 2007, 2010

- Pointing always underdetermines the intended referent without shared context.
- Pointing simply directs someone's attention to a location in the perceptual environment
- Correct identification of the referent requires partners to know together that the indicated location is RELEVANT to a context they share.
- Individuals both know that they both know.

### Infant Pointing: A closer look Tomasello et al., 2007, 2010

- Behne, et al., 2005
- Hiding game and a toy is hid in one of two buckets
- Adult points to a hiding place to help C find the object
- C looks in the bucket, inferring A's intent
- Control condition, when A pointed but looked at her wrist, C did not look in bucket

### Infant Pointing: A closer look Liebal et al., 2007

- 24 18 month olds and 24 14 month olds children
- Two events: puzzle game/put pieces in the puzzle; clean up game/toss items in a basket
- Target item: orange cardboard triangle that could be used in either game.

### Infant Pointing: A closer look Liebal et al., 2007

- E1 plays puzzle game with C
- E1 leaves room
- E2 plays clean up game with C
- E2 hides target item
- E1 re-enters room
- Either E1 or E2 points to the target, looks at the C, and says "oh there" alternating gaze between C's face and the objects.
- Task: What does the C do with the target piece.

### Infant Pointing: A closer look Liebal et al., 2007

- If E1 points to the item, the majority of the 18 months old infants put the target in the puzzle.
- If E2 points to the item, the majority of the 18 months old infants put the target in the bucket.
- No significant difference for 14 months olds

### **Infant Pointing: A closer look Liebal et al., 2007**

- E1 plays clean up game, hides target item
- E2 enters the room
- E1 or E2 points to the target item
- Shared condition – E1 points and says “there”
- Unshared condition – E2 points and says “there”
- Infants played the clean up game in the shared but not unshared condition.

### **Infant Pointing: A closer look Liszkowski et al., 2004**

- 12 month olds watched novel/interesting objects suddenly appearing at some distance
- Adult reacted to infant pointing by
  - Reacting positively without looking at the event
  - Looking at the event but not the infant
  - Looking at the infant but not the event
  - Alternating gaze between infant and event with positive affect
- Infants repeated point when A looked at event but not infant or the adult expressed positive effect while ignoring the referent.

### **Infant Pointing: A closer look Liebel et al., 2010**

- Infant shared either toy ducks or bears with a particular person, E1 or E2.
- Infants entered a different room with 2 pictures on the wall (duck or bear) with E1 or E1.
- Infants pointed to picture of toy they had played with in the interaction with the appropriate adult.
- Infants tracked shared experiences.

### **Infant Pointing: A closer look Moll et al., 2008**

- 14 month olds share 3 objects with an adult
- One object is shared in a “special way” – encounter it several times on way to test room.
- A points to three objects grouped together asking “Wow, look, can you give it to me?”
- I selected item shared in a special way
- Different A requesting, Is picked the special way object at chance level.
- Infants selected items based on shared context.

### **Role reversal imitation Tomasello, 1999.**

- Child learns to use a symbol toward the adult in the same way the adult used it toward her.
- Child substitutes herself for the adult as the actor (i.e., points toward an object).
- Child must also substitute the adult for herself as the target of the intentional state (she must substitute the adult’s attentional state as goal for her own attentional state as goal).
- Child and adult role are both understood from an external point of view part of the JAS.

### **Skills necessary for the use of communicative intents (Tomasello, 1999).**

- Understand others as intentional agents;
- Participate in joint attention scenes that set the social-cognitive ground for symbolic acts
- Understand not just intentions but communicative intentions in which someone intends for her to attend to something in the joint attention scene
- Reverse roles with adults in the cultural learning process and thereby use toward them what they have used toward her

## Infants and Pattern Finding

- Ability to form perceptual and conceptual categories of "similar" objects and events
- Ability to form schemas/scripts from recurrent patterns of perception and action
- Ability to perform statistically based analyses of speech input
  - Extract words, morphemes, phrases from speech stream
  - Identify the communicative job these elements are doing in the utterance
  - See patterns across utterances, or pairs of utterances, which enable them to create more or less abstract categories and constructions (Tomasello, 2003).

## Early Word Learning

- Development of speech acts: label, repeat, protest, request, call, greet, etc.
- Development of semantic content: existence, nonexistence, action, possession, denial, etc.
- Formulation of grammatical classes: nouns, verbs, adjectives.
- Formulation of grammatical relations: subject, predicate, etc.
- Critical mass notion: Knowledge of 100+ different words necessary to start grammar. Vocabulary predicts MLU.
- Number of spoken words (10<sup>th</sup> percentile): 18 months/20 words; 24 months/80 words; 30 months/250 words. Children come to acquire a language subsequent to significant developments in:
  - Intention reading
  - Pattern finding
  - Social imitation
  - Language development has a cultural base (Tomasello, 2003).

## Parent Talk addressed to Children

- Motherese: grammatical, simple & complex, slow rate, precise articulation (clear voice).
- Recasts (expansions) related to child's utterance production.
  - Typical language learners
  - Accelerated language learners
  - SELD
- Facilitative speech input → comments & acknowledgments
- Limiting speech input → questions, commands, prohibitions

## Social Pragmatic Games (JAS, JAR, JAF, MER etc).

- Simple content, small number of element whose interrelations may be easily understood.
- Number of repetitions in the infant's experience so he can abstract a task structure that is predictable with limited variation.
- Clear role structure for participants, most often reversible to enable infant to move from a passive to an active role
- Have a playful affective tone

## Social Pragmatic Games Ratner & Bruner 1978

- Subjects aged 5 to 9 months
- Hiding-Finding game
- Over successive episodes game becomes more routine but included variations.
- Over time infant became able to predict certain steps in the game and switch roles with the mother.
- IDS was highly predictable, in terms of content and timing.

## Social Pragmatic Games Ninio & Bruner 1978

- Subjects aged 8 to 18 months
- Book reading routines
- Routine "dialogue" about BR with clear turn taking structure
- Role reversal occurred over time
- Children came to use newly learned pieces of language for prior vocalizations/gestures
- Child used same language mother had used in previous BR episodes.

## Purpose of Infant Directed Speech

- IDS engages the infant/child's attention
- IDS communicates affect, facilitating social interaction
- IDS plays a role in language acquisition

## Aspects of Parent-Child Interactions associated with Differences in Language Development

- Amount of P-C interaction
- Adult responsiveness to the child's communicative intents
- Amount & Quality of the Talk addressed to the child
- Use of Language Learning Support Strategies

## Parent-Child Interaction: Amount of P-C interaction

- TD children with engaged in greater amounts of joint interaction had larger productive vocabularies (Tomasello & Todd, 1986)
- Mothers of children exhibiting communication difficulties spent half as much time interacting as did mothers with TD infants (Alston, 2005).
- Mothers with TD language skills engage in more conversational events with their child than do mothers of children with SLI.

## Parent-Child Interaction: Amount of P-C interaction

- Effective Talking Strategies (Hart & Risley)
  - Parents just talked. They talked to keep the child cooperative, about shared activities, followed child's shifting attention.
  - Parents listened. They provided a moment of exclusive interest, listened to encourage COMMENTING and keep the conversation going; and were partners in play.
  - They tried to be nice. They avoided telling children they were bad or wrong; could be "strict and nice."
  - They gave children choices

## Parent-Child Interaction: Amount of P-C interaction

- Specific Parental Talk Factors
  - Language diversity related to child vocabulary use
  - Feedback tone related to rate of vocabulary growth and IQ
  - Symbolic emphasis strongly related to vocabulary use
  - Guidance style strongly related to vocabulary growth and IQ
  - Responsiveness related to vocabulary use, vocabulary growth and IQ

## Parent-Child Interaction: Responsiveness

- Maternal responsiveness to child vocalizations at 13 months predicted multiple expressive language milestones including 50 spoken words (Tamis-LeMonda, 2001).
- Maternal responsiveness to child intentional C-acts positively related to language skills a year later (Yoder, et al., 2001).
- Siller & Sigman (2002) strong association between total caregiver synchronized verbalizations and spoken language in children with autism.
- Parent use of follow in comments and requests predicted later spoken vocabulary in children with autism (McDuffie & Yoder, 2010).

## Parent-Child Interaction: Language Input

- Significant positive relationships between the amount of maternal linguistic input and child vocabulary (Hart & Risley, 1995; Huttenlocher, et al., 1991).
- Lexical richness (i.e., number of different words) and syntactic complexity of maternal speech predict children's spoken vocabulary (Hoff & Naigles, 2002).
- Number of sophisticated words and density of sophisticated words in parent talk predict receptive vocabulary in K and 2<sup>nd</sup> (Weizman & Snow, 2001)

## Parent-Child Interaction: Language Support Strategies

- Parents of children with specific language impairment used fewer simple recasts than parents of typically developing language (Conti-Ramsden, et al., 1995)
- Parents of toddlers with typical language used more expansions than parents of toddlers with language impairment (Vigil, et al., 2005).
- Parent use of recast is a function of child's productive language use (Macpherson & Weber-Olsen, 1980).

## Slow Expressive Language Development

"Is my child a late talker? Does it really matter?"

## Slow Expressive Language Development

- Less than 30/50 different spoken words at 24 months and no multi-word utterances
- 40 to 50% of children with SELD "outgrow" the problem by 36 months of age
- Should we be concerned?
  - Wait & See
  - Watch & See
  - Early Intervention Focus

## Slow Expressive Language Development (SELD)

- Children with < 50 different spoken words at 2
- Four cohorts discussed in the literature
- Research methodologies varied
  - Length of Study
  - Language measures employed
- Change predictors and possible prognostic factors identified.

## San Diego Cohort (D. Thal & colleagues)

- Language comprehension, production, & gesture use; 17 Ss; 2-3 years.
- CDI & behavioral measures
- Reduced word comprehension associated with slower language development at 3 years
- Performance on spontaneous & imitative gesture tasks predicted better outcomes at 3 years.

### Portland Cohort (R. Paul and colleagues)

- 37 Ss with initial identification between 20 & 34 months
- Language Development Survey
- Many Ss "catch up" by 5
- 26% have grammatical deficits at 5
- Nature of SLI narrows with age, rate of change slows with age
- Little change in grammatical ability between K and 1<sup>st</sup> grade.

### New York Cohort (Whitehorse & colleagues)

- 22 Ss, 24-38 months; Vocabulary Checklist
- Primary focus on lexical-semantic ability
- 96% of Ss within normal range on vocabulary measures by 5; 6 years of age
- No information relative to grammatical ability
- Dialogic book reading strategy

### New England Cohort (Rescorla and colleagues)

- 25 Ss, 24-31 months, LDS, follow-up 8 months or more later
- Receptive language & NV cognition WNL
- MLU & IPSyn grammatical measures
- 60% Ss with MLU 1 sd below the mean
- 72% Ss with IPSyn 1 sd below the mean
- Subjects with SELD continued to exhibit deficits at 3 to 4 years of age.

### New England Cohort cont.

- 34 SELD Ss at 3 years of age and controls
- Control rec/exp lang > SELD at 2
- Follow up at age 3.
  - Control exp vocab > SELD
  - SELD exp vocab within normal limits
  - SELD MLU was 1.5 sd below the mean
  - SELD IPSyn was 2.0 sd below the mean
- Older Ss with lower vocabulary scores had poorer prognosis.

### Outcomes of Early Language Delay (Dale, 2003)

- Twin Study, 3 yr sample size 3904; 4 yr 3330.
- MCDI:UKSF. Vocabulary & Grammar
- 2 year old language scores < 10<sup>th</sup> ile ELD
- 44.1 of ELD at 3 met criteria for persistent language difficulties (7.2% of TL)
- 40.2% of ELD group at age 4 met criteria for persistent language difficulties (8.5% of TL)
- Measures of parent education and child history of ear infections did not improve predictions
- Odds ratio was 4 to 1.

### Language Outcomes of 7-year old children (Rice et al., 2008)

- 128 Ss with Late Language Emergence (LLE) at 2
- Language Development Survey; ASQ, combining words.
- 7 yr outcome measures: GFRA; TOLDP3; PPVTIII; Rice-Wexler TEGI; SALT
- LLE group mean was within normal limits, however LLE children performed below normative expectations on
  - General Language Ability (20% vs 11%)
  - Syntax (18% vs 8%)
  - Morphosyntax (9-23% vs. 2-14%)
- LLE and TI did not differ on measures of vocabulary or semantics

## Clinical Implications of SELD

- SELD & SLI represent lower tail portion of a language learning continuum.
- 25 to 50% of children with SELD present with persistent SLI at 5;6 years
- Little progress in grammatical ability after 7 to 8 years of age documented in the literature.
- Narrow Window of Opportunity
- Watch & See vs Wait & See.

## Clinical Management of SELD

- Adoption of a risk-factors model
- Use parental report measures for language screening and assessment at 18-30 months of age.
- Failed screening should lead to referral for a comprehensive assessment with subsequent intervention/remediation.
- Prioritize intervention services for children with SELD who display additional risk factors.
- Watch & See method for SELD without risk.

## Change Predictors/Prognostic Factors for SELD

- < 50 different spoken words at 30 months + risk
- Receptive language delay + risk
- Use of Invented Gestures - risk
- Family history of speech, language, reading + risk impairments
- Gender: Girls less risk than boys.
- Socioeconomic Status + risk
- Hearing status and middle ear disease + risk
- Parental interaction and language styles + risk

## Communication, Language, and Play Assessment

Language is acquired through the course of interacting with others in meaningful activities

## State of Michigan Criteria for Speech and Language Impaired

- Language impairment which interferes with the student's ability to understand and use language effectively and which includes one or more of the following: phonological, morphological, syntactic, semantic, or pragmatic use of aural/oral language as evidence by BOTH of the following: spontaneous language sample demonstrating inadequate language functioning and/or test results, on not less than two standardized assessment instruments or two subtests designed to determine language functioning, which indicate inappropriate language functioning for the child's age.

## Communication Assessment Battery for 0-3 population (based on SELD research).

- Vineland 2: Communication Domain
  - Receptive Communication – Age Equivalent
  - Expressive Communication – Age Equivalent
  - Total Communication Standard Score
- Communication/Speech & Language Sample
  - Communicative acts
  - Language measures
- MacArthur Short Form Expressive Vocabulary Checklist.
- Based on Assessment Protocols used in the SELD studies.

## Vineland 2: Communication Domain

- Parent informant scale
- Receptive Communication age equivalent score
- Expressive Communication age equivalent score
- Total Communication standard score

## Communication, Language, & Play Sampling

- Communication Sampling: Conventional communication gestures (show, give, point); head nod, head shake, physical contact. Frequency and type.
- Social vs. communicative intentions, sharing attention, directing attention, following attention.
- Language Sampling: Number of words, number of different words, mean length of utterance; speech act analysis; content-form analysis; presence of language comprehension strategies.
- Play sampling: Ability to engage in reciprocal play events with both people and objects; sensori-motor play/ containment play; conventional object use and representational play skills.

## Parent Report Measures: CDIs

- MCDI: Words & Gestures. 8-16 months; 396 word comprehension/production checklist; phrase comprehension & play/gesture checklists.
- MCDI: Words & Sentences, 18-30 months; expressive vocabulary checklist, 22 categories/680 words; how children use words; word endings; sentence complexity; and longest three utterances.
- MacArthur Short Form Vocabulary Checklist. 2 versions; 100 item comprehension/production checklist for 8-18 months; 100 item production checklist for 18-30 months.
- MacArthur Bates Communicative Development Inventory. 30 to 38 months; 100 word expressive vocabulary checklist; sentence complexity; using language; three long sent.

## Communication & Symbolic Behavior Scales Developmental Profile: Infant Toddler Checklist (CSCS:ITC)

- 6-24 months of age
- Rating based checklist
- Seven core areas: emotion & eye gaze; communication; gestures; sounds; words; understanding; and object use.
- Screening cut-off scores for to determine need for further referral.
- Wetherby & Prizant, 2002.

## Child with Slow Expressive Language Development

■ Age	24 months	32 month
■ V2: RC	31 months	43 month
■ VC: EC	15 months	26 month
■ VC: TC	91 ss	100
■ LS	MLU 0	1.2/21 m
■ MSFVC	8/<5 <sup>th</sup>	31/21 m

## Child with Slow Language Development

■ Age	17 months	24 month
■ V2:RC	13 months	19 month
■ V2:EC	9 months	23 month
■ MSFVC	<5 <sup>th</sup> %ile	5-10 <sup>th</sup> %
■ LS	0 words	MLU 1.1

### Child with ASD

■ Age	25 months	35 month
■ V2:RC	13 months	32 month
■ V2:EC	9 months	22 month
■ V2: TC	71 ss	86 ss
■ MSFVC	0/<5 <sup>th</sup> %ile	36/22 m
■ LS	0 words	MLU 1.0

### Macpherson & Benedek (1994)

- 10 Ss, SELD, 20-31 months;
- VABS, Communication Sample; Number different words; IPSyn; Communication Development Inventories
- Strong correlations between
  - CDI exp vocab & NDW
  - CDI exp vocab & VABS exp comm
  - CDI exp vocab & VABS total comm
  - CDI recep vocab & VABS rec comm

### Thal et al., (1999)

- 12 Ss; 24-32 months; CS, PLS, EOWPVT
- CS, NDW, NCommGes; NDiff Comm Ges
- Moderate correlations for
  - NDW & CDI exp vocab
  - PLS & CDI exp vocab
  - Number of communicative gestures & PLS comprehension age

### Validity of the CDI (Dale, 1991)

- CDI: Words & Sentences
- 24 2 year olds; 23-25 months
- SICD:R; EOWPVT; SB Memory for Sentences
- Language sample; MLU & IPSyn
- High correlation between CDI exp vocab & EOWPVT;
- High correlation between CDI sentence complexity and three longest utterances and LS measures MLU, IPSyn.

### Service Delivery Models for SELD

- Watch & Wait Approach: SELD, no risk factors, serial assessments every 3 months.
- Home Visit Approach: SELD, risk factors present; + parent involvement; Social Pragmatic Language Intervention
- Early Childhood Special Education Services: Older SELD; + Risk Factors; Decreased parent involvement; Lack of progress.
  - Social Pragmatic Language Intervention
  - Play Group/ECSSES Teacher; 2 Paraeducators

### Communication & Language Intervention Strategies

Assisting children with the move from non-intentional to intentional communication.

## What is language intervention?

- Language intervention involves modifying a child's environment in a manner that will enhance the child's induction of interactions among language content, form, and use (Lahey, 1988)
- Attempting to facilitate language learning in language-impaired children is both a rewarding and humbling experience (Lahey, 1988)

## A Social-Pragmatic Approach to Language Intervention

- Speakers form a communicative intention (e.g., comment, request, answer, call, protest) prior to utterance formulation.
- Effective language intervention/remediation must address the speaker's intention in a variety of conversational contexts.
- Resource allocation suggests that a speaker's utterance will be impacted by social, cognitive, and linguistic demands. These demands must be addressed in intervention.

## Social Pragmatic Language Intervention: Language develops in the context of social pragmatic games.

- Critical component is the relationship between caregiver and child.
- Social pragmatic games provide the context for facilitating communication and language skills.
- Joint attention formats, joint attention routines, and scripts all aspects of social pragmatic games.
- Conversation/event histories are necessary as scaffolds for development.

## Social Pragmatic Language Intervention: General strategies

- SOUL: Silence, observation, understanding, listening.
- Strive for balanced exchanges.
- Clinician talks about what the child is doing.
- Clinician responds to all child communicative attempts; communication payoff (Muma)
- Clinician uses recasts with use, content and form aspects.
- Clinician "ups the ante" based on past conversational/event histories.

## Social Pragmatic Language Intervention

- Following the child's lead is a beginning that leads to a relationship. Unbalanced interactions.
- Develop Social Pragmatic Games that may either serve to prime recall (joint attention scenes/formats) or enable initiation of events (mental event representations/scripts).
- Social Pragmatic Games enable the child to recall and predict what will occur (i.e., common ground)
- Social Pragmatic Games provide a structure that enables the child to "tune into you" and establish common ground.
- Social Pragmatic Games may be elaborated.

## Social Pragmatic Games

- JASs are social interactions in which partners are jointly attending to some third thing, and to one another's attention to that third thing, for a period of time.
- JAS become those objects/events the child knows are part of the attentional focus of her and her partner and both know this is the focus.

## Social Pragmatic Games

- SP games are defined on the basis of interactions, gain identity and coherence from the child's and adult's understanding of "what we are doing."
- SP games have participant roles that are interchangeable.
- SP games allow C to take a A role and use a novel word to direct A's attention in the same way A just used it to direct hers
- Focus is on a subset of objects and events for mutual consideration in the perceptual field.

## Social Pragmatic Games

- Simple content, small number of elements whose interrelations may be easily understood.
- Number of repetitions in the infant's experience so he can abstract a task structure that is predictable with limited variation.
- Clear role structure for participants, most often reversible to enable infant to move from a passive to an active role
- Have a playful affective tone

## Social Pragmatic Games & Underlying Memory Systems

- Based on implicit memory system
  - Procedural content
  - Primed
  - Joint attention scenes/formats
- Based on explicit memory system
  - Declarative content
  - Recalled/Retrieved
  - Mental Event Representations/Scripts

## SPLI & Family Centered Intervention

- Respect families
- Provide flexible/individualized services
- Sharing information with parents
- Parent involvement in assessment, planning and intervention process.
- Parent not necessarily the change agent.
  - CHANGE FOCUS TO
- Parent is PRIMARY change agent.
  - Gets us relevance
  - Gets us Intensity

## SPLI & Parent as Primary Change Agent

- Relationship is goal of intervention process
- General Strategies
  - SOUL
  - Follow child lead/watch the eyes
  - Talk, Talk, Talk; Paraphrase, Paraphrase, Paraphrase
  - Repeat & Add words
  - Respond to any communication
  - Social Pragmatic Games

## Effectiveness of parent administered language intervention

- Meta analysis with 18 studies meeting criteria
- Results indicated that parent-implemented interventions have a significant, positive impact on receptive and expressive language skills.
- Key components
  - Responsiveness; Language input; Language support strategies;
- Key findings
  - Significant effect size for vocabulary and syntax
  - Similar results for clinician and parent intervention
  - Largest effects for morpho-syntax.

### **Practical aspects of conducting meaningful intervention in the home**

- Use of texting with parents to provide information, answer questions, confirm appointments, etc.
- Using both child and clinician material sets/daily events in the intervention process.
- Clinician serves as teacher and coach with family members.
- Use of video technology (iPad) to support parent involvement in the intervention process.
- Use of visual supports for parent and/or child in the home.

### **SCERTS: Do's of Interpersonal Support**

- Encourage initiation, spontaneity, active learning
- Support development of communicative skills with different partners and varied social contexts
- Respond to and expand on functional communication
- Comment and expand on child's focus of attention
- Use visual supports
- Support the development of communicative skills that are developmentally appropriate and will have an impact on the child's life.

### **SCERTS: Do's of Interpersonal Support**

- Support communicative growth in meaningful and purposeful activities
- Create motivating events with many needs and opportunities to communicate, with modeling and support provided as needed.
- Respond to echolalia or unconventional communication specific to underlying intent
- Monitor child's emotional regulation and make necessary modifications

### **SCERTS: Don't's of Interpersonal Support**

- Focus on compliance, respondent training and learning.
- Teach communicative skills exclusively in adult-child one-to-one situations.
- Ask questions or give directions incessantly
- Persist in focus on correct grammar
- Remove visual supports in the early stages of learning.

### **SCERTS: Don't's of Interpersonal Support**

- Teach developmentally inappropriate communication such as rote repetition of pictures, reading flash cards, etc.
- Teach fragmented skills in a repetitive, drill-like format outside of meaningful contexts
- Make social-communicative activities stressful for a child.
- Ignore, punish, extinguish echolalia.
- Ignore a child's emotional regulation and state or dismiss behavior as noncompliant.