CSA ☑ **Communication Sampling & Analysis**

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What is CSA?

- An assessment tool designed for infants, toddlers, and children with multiple physical, sensory, speech and cognitive-linguistic challenges

Goals for today

- Describe the purpose of CSA
- Summarize theoretical foundation
- Define what we observe
- Explain CSA methodology
- Explore clinical applications for CSA
- Share questions & comments

Purpose of CSA

- Observe & Sample
  - Communicative behavior
  - During interaction with partners
  - In specific contexts and interactive settings

- Analyze
  - Communicative means
  - Which serve communicative functions
  - In interactions with partners
  - In natural settings

Why Should SLPs Use the CSA?

- Objectively evaluate a nonverbal or severely speech impaired child that is difficult to test

- Provide evidence that the severely challenged child is in fact communicating

- Provide an inventory of the child's communicative behaviors and functions

- Obtain a measure of communicative behavior in order to develop goals and objectives

- Use as a pre and post treatment measure to document progress and justify continued treatment.

CSA provides:

- An objective measure
- A process for direct observation of communication in natural interactions (in real time)
- A method that takes into account the child's physical, sensory and cognitive-linguistic challenges and abilities

Theory & Research

What's the theoretical basis for communication sampling and analysis using CSA?

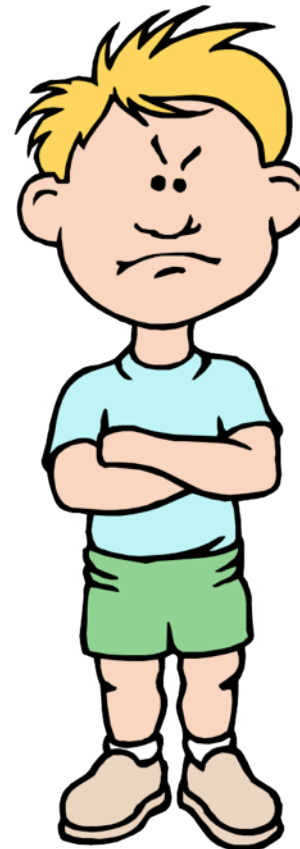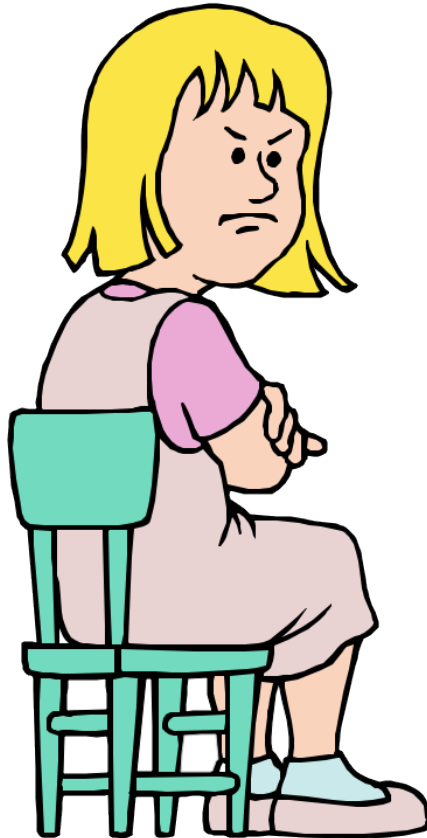# Communication

- "If it is accepted that all behavior in an interactional situation has message value, i.e. is communication, it follows that no matter how one may try, one cannot <u>not</u> communicate" (Watzlawick, Beavin, & Jackson, 1967 pp 48-49).

You Cannot Not Communicate

What is Communication?

- An intention to convey information to another person (Illocutionary Force)

- An understanding that the partner will recognize the meaning or intention (Illocutionary Effect)

- A recognition that the partner may recognize the meaning or intention but have goals and beliefs that differ from the sender (McTear & Conti-Ramsden, 1992)

What is Observable?

- Communication Behavior (Nonverbal, Vocal, Verbal)
- Consequences or effects that such behavior has on the partner (Perlocutionary Force)

What is Not Observable?

- Intentions
- Recognition of Intentions
- Understanding
- Perceptions
- Thoughts
- Beliefs

Communication Sampling and Analysis

- Measuring only what we can observe

Why should we sample nonverbal behavior?

- Language models do not fully address nonverbal behavior beyond the emergence of first words (Gerber & Kraat, 1992) and yet nonverbal behaviors continue to be an integral part of a multiply challenged individual's profile at all levels of development. Sampling and analysis of communicative behavior for multiply challenged individuals "captures" evidence of intentionality but also qualifies the nature and extent of communicative behavior (even in the presence of an Augmentative Communication System).

What factors affect the sample?

- Communicator's skills, abilities, chronological and developmental age
- Relationship between child and partner
- Interactive style of the partner
- Interactive setting
- Context in which interaction taking place

What do we observe when we sample?

# Sampling the Interaction Not the Individual

- "Where interactive behavior is observed, it is necessary to sample the behavior of all the persons interacting, even if the focus of interest is on one individual" (Scherer & Ekman, 1982, pp 28).

Context

- Context refers to the place where the interaction is occurring.

- Interactive Setting refers to specific actions and verbalizations which occur in context during an interactive activity between partner and communicator
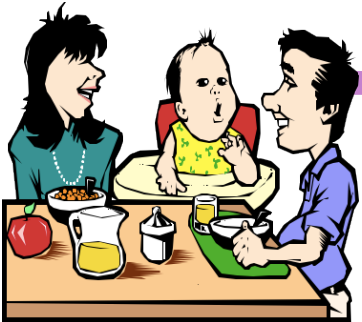
  - "Without context, words and actions have no meaning at all" (Bateson, 1979, p.15)

Communication Partners

- The dyad (2 individuals) is the minimal unit for communication sampling. The communicatively challenged child is typically referred to as the "communicator", whereas the other member of the dyad is referred to as the "partner"
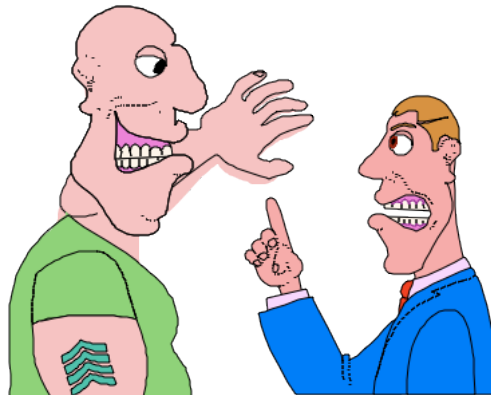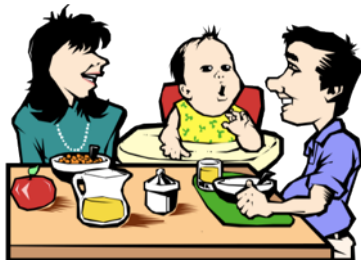
Communication Act

- A Communication Act is a nonverbal, vocal, or verbal behavior or AAC system use that occurs in an interactive setting, is directed toward a partner, and serves a communicative function.

  (Wetherby & Prizant, 1990)

Interactive Event Sequence

- An Interactive Event Sequence includes (a) any change in the interactive setting including a verbal utterance by the partner or any notable event which initiates the communication exchange (b) nonverbal, vocal, or verbal behavior by the communicator (C-Act) and (c) a partner response to the communicator.

Communicative Means

- Observed behavior includes vocalizations, verbalizations, gestures, facial expressions, eye gaze, proxemics, and/or use of an AAC system which occurs in an interactive setting.
  - Partner present observing behavior of child

Communicative Means

- Gestures
- Vocalizations/Verbalizations
- Facial Expressions
- Eye Gaze
- Proxemics
- AAC System

Gestural

- Discrete Motor Behavior
  - Full or partial body movement that is distinct, differentiated, and conveys meaning
    - <u>Examples</u>: Body extension, lean toward, turn away, stand up, move away, clasp fists to chest, bounce up and down

Gestural

- Referential (Deictic) Gestures
  - Gestures that indicate or call attention to an object, person, or event. The referent is present in the environment.

Show	Push
Take	Drop
Give	Pull
Touch	Point
Reach	Throw

Gestural

- Representational Gestures
  - Gestures used to convey meaning
    - Includes symbolic gestures that represent some aspect of the referent and conventional gestures

      - Symbolic gestures: Pantomime, stroke cheek to signal "gentle", brush action in front of teeth to represent toothbrush, tap top of head to say "yes"
      - Conventional gestures: head nod, head shake, wave, summoning gesture

Gestural

- ## Formal Sign

  - ### Formal visual-motor language systems such as ASL or manual signed English systems such as SEE

    - C-shaped hand to mouth for "drink", fingertips of flat O-hands touch in front of chest for "more"
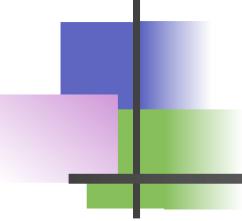
Vocalization/Verbalization

- Discrete Vocalization
  - Vocalizations that are distinct and differentiated
    - audible breathing
    - grunt/groan
    - cry, whimper
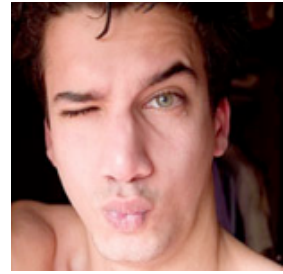   - laugh, pleasure sound
    - scream
    - tongue click

- Verbalization
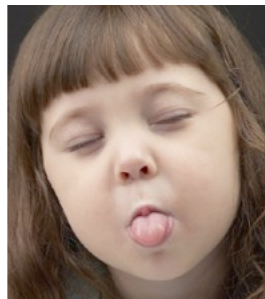 - Verbal word approximations, spoken words, and phrases such as:
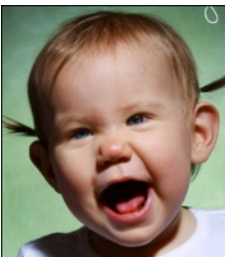   - /i/ for "eat"
    - /ma/ for "mom"
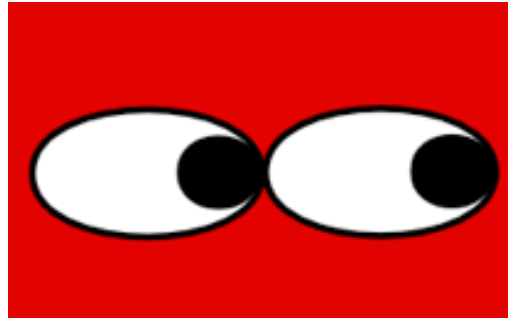   - /ai/ /wa/ for "I want"

Facial Expressions

- Facial movement including idiosyncratic facial gestures that convey specific semantic content

  - smile, pout, frown, grimace, furrowed brow, lip elevation, kiss gesture, move tongue back and forth across lips, stick tongue out for "yes", in for "no"

Eye Gaze

- Gaze in direction of or fixate gaze on communication partner(s), object, or place.
- Avert gaze from person, object or activity
- Alternate eye gaze between objects, people, or locations
- Use idiosyncratic eye movement to convey specific semantic content
  - gaze up for yes, down for no; blink once for yes, twice for no

Proxemics
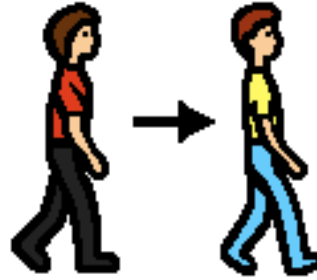
- Approach a person, location, or object
  - move in close proximity to the door
  - go into another room
  - move walker toward a toy
  - crawl to location near the food
  - approach and sit next to a person

AAC System
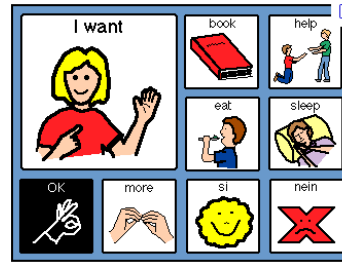
- Symbols (pictures/words), aids (physical object/device), strategies (indicate from a field of choices) and techniques (gestures, directly selects, scans) used by individuals to enhance communication. ASHA 1991
  - Activates message on Speech Generating Device
  - Points to a symbol on a manual board
  - Points to picture mounted on a wall
  - Gazes at a symbol given a choice of two symbols
  - Picks up a miniature toilet and gives it to partner to request bathroom
  - Writes word and gives it to partner

Multi-Modal Communication Acts

- Use of more than one communicative means to convey an "act" in an interactive event

  - Looks at partner and then gazes toward door and vocalizes
  - Looks at object, vocalizes, and points
  - Turns away from partner and grunts
  - Waves at partner and vocalizes

Communicative Function

- The function that the communication behavior(s) served in the interaction is determined on the basis of what is transpiring in the interactive setting and the effect that the communication act had on the partner

    - The Partner's response to the atypical communicator's behavior represents the perlocutionary "effect" or force that the behavior had on the partner.

Using speech generating devices to communicate during play

Categories of Communicative Functions

- Behavioral regulation
- Social interaction
- Joint attention acts

  - Bates (1979) and Wetherby, A., Cain, D., Yonclas, D., & Walker, V. (1988).

Behavioral Regulation Acts

- Used to regulate another's behavior
    - obtaining or restricting something or someone
    - requesting objects or actions
    - protesting or rejecting undesired people, objects, or actions

Behavioral Regulation

Request object

- Behaviors used to demand a desired tangible object
  - Pushes partner's hand toward food item
  - Reaches/points at cup

Behavioral Regulation

Request action

- Behaviors used to ask or direct another to carry out or cease an action, includes requesting assistance
  - The action rather than the object is the focus of the child's attention

Behavioral Regulation

Protest/Deny/Reject

- Behaviors used to refuse, protest, or disapprove of an undesired object, action, or person.
    - Includes disapproval or any form of negation "no" or not"

Social Interaction Acts

- Used to attract and maintain another's attention to oneself for affiliative purposes such as soliciting attention, acknowledging, or requesting a social routine

Social Interaction

- Request Social Routine
  - Behaviors used to command another to commence or continue carrying out a game-like social interaction. Partner demonstrates familiarity with the routine or the interaction repeats.
    - Pulls partner's hands up and out to play pat a cake
    - Covers face or hides mother under blanket to request "Peekaboo"
    - Indicates through proxemics and facial expression that s/he wants to be chased.
    - Says "more" to continue game-like routine
    - Drops cup off table repeatedly and looks for partners humorous response

Social Interaction

- ## Solicit attention
  - Behaviors used to draw attention to self, others, objects, or actions
  - Teases or conveys humor to get attention
  - Warns, alarms, exclaims to direct attention to self or something in environment
- ## Affirm/Confirm
  - Behaviors used to affirm, agree, or confirm, e.g. "yes".

Social Interaction

- **Greet**
  - Behaviors used to express salutations and conventionalized rituals, e.g. "Hi", "Bye"
- **Acknowledge**
  - Behaviors used to indicate notice or recognition of a partner's behavior, previous statement, or actions
    - Includes politeness markers, e.g. please, thank-you

Social Interaction

Request Permission

- **Behaviors used to seek another's consent to carry out an action by oneself**
  - Walks to and looks at refrigerator where lunch is kept and looks back at teacher who says, "OK, you can get it".
  - Bangs his little brother into the wall, looks up with a questioning look at Dad, who says, "No! You can't bang him into the wall again."

Joint Attention Acts

- Directs another's attention for the purposes of sharing the focus on an entity or event

Establish Joint Attention

- Relay Information
  - Behaviors used to tell about something (initiated by communicator or in response to previous question or statement) or to inform another about an object, event, person, or activity

Establish Joint Attention

Request Information

- Behaviors that solicit or direct the listener to provide information about an object, event, person or activity.

Establish Joint Attention

- Comment
  - Behaviors used to express a belief or idea or describe the physical attributes of an object, event, person, or activity.

Sampling & Analysis

How do we collect and analyze a communication behavior sample?

Collecting a Communication Sample

- Sampling communication is a great first place to start in AAC evaluations with a multiply challenged child.

- Evaluator can observe the child before any direct hands on assessment.

- The child has a chance to relax and warm up to the new person in his environment.

- The evaluator learns a great deal about the child, partners, and setting prior to any intervention.

Collecting a Sample

- Formulate a question that can be answered with communication sampling and analysis
  - For example:
    - What is the baseline level of communicative functioning?
    - Is there a difference in how the child communicates at home versus school?

Factors that affect the sample

- Skills and abilities of the communicator
    - What system(s) is he/she using?
- Interactive or instructional setting
    - Quantity & quality of the communication opportunities in the interactive settings
- Partner(s)
    - Partner's relationship to the child, interactive style, and their ability to communicate effectively with the child
- Context
    - Child and partner communicate differently in different contexts (home, school, community)

Sampling Procedures

- Observe and sample spontaneous natural interaction

- The evaluator (SLP) observes (does not interact with) the child and partner during sampling.

- The evaluator sits in close proximity to observe communicative behavior between the child and partner.

Sampling Procedures

- Sample after the child and partner begin to ignore the presence of the observer.

- Sample as much of the interaction as possible given the length of the activity and the opportunity to observe uninterrupted.

- Record only the macro, global nonverbal, vocal, and verbal behavior
  - Record what is most obvious and transparent

- Recording sequential events if possible; each event is analyzed individually

Record observations on the Communication Sampling Form

- **Interactive Setting**
  - Note what is happening including verbal utterances by partner or any notable event or change
- **Observed Behavior of Communicator**
  - Record the child's nonverbal, vocal, verbal behavior or AAC system use directed toward the partner
- **Partner Response to Communicator**
  - Record exactly what the partner said or did following the child's Communication Act

Sampling Form

COMMUNICATION SAMPLING FORM

Communicator's Name: Joshua			Date of Sampling: 7-01-2007
EVENT #	INTERACTIVE SETTING	OBSERVED BEHAVIORS OF COMMUNICATOR	PARTNER RESPONSE TO COMMUNICATOR
	Playing ball in living room	Throws ball, looks at Mom, and then extends left arm out toward ball	"Mommy get it?"
	cont.	/geh/ + hand wave in direction of the ball	Mommy got the ball
	Mom holding ball ready to throw it. "Ready?"	/heh//heh/+ bouncing up and down on knees	"one, two, three"
	cont.	/geh/ + scoots toward Mom	"Go." Mom threw the ball to Joshua
	"Where's the ball? Where's the ball?"	Gazes in the direction of the ball, reaches with arm to the left	"Is it over there, will you get it?",

Page ___ of ___
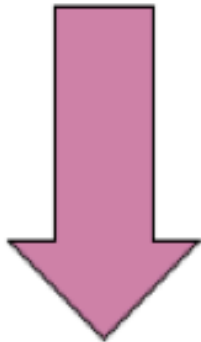
Interactive Event Sequence

- Each line of the sampling form must include:
    - a notation regarding the interactive setting,
    - the child's communication act
    - the partner's response
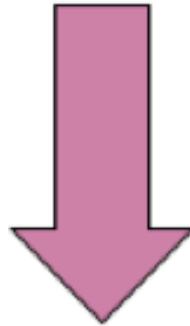
Interactive Setting

COMMUNICATION SAMPLING FORM

EVENT #	INTERACTIVE SETTING	OBSERVED BEHAVIORS OF COMMUNICATOR	PARTNER RESPONSE TO COMMUNICATOR
	Playing ball in living room	Throws ball, looks at Mom, and then extends left arm out toward ball	"Mommy get it?"

Communicator's Name: Joshua

Date of Sampling: 7-01-2007

Communication Behaviors

COMMUNICATION SAMPLING FORM

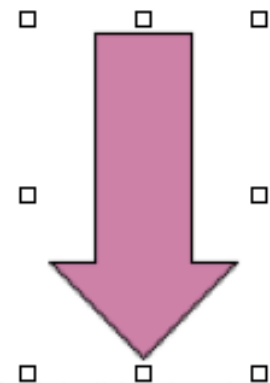| EVENT #	Communicator's Name: Joshua		Date of Sampling: 7-01-2007
	INTERACTIVE SETTING	OBSERVED BEHAVIORS OF COMMUNICATOR	PARTNER RESPONSE TO COMMUNICATOR
	Playing ball in living room	Throws ball, looks at Mom, and then extends left arm out toward ball	"Mommy get it?"

Partner Response

COMMUNICATION SAMPLING FORM

EVENT #	INTERACTIVE SETTING	OBSERVED BEHAVIORS OF COMMUNICATOR	PARTNER RESPONSE TO COMMUNICATOR
		Communicator's Name: _Joshua_	Date of Sampling: _7-01-2007_
	Playing ball in living room	Throws ball, looks at Mom, and then extends left arm out toward ball	"Mommy get it?"

Incomplete Interactive Events

- Communication Breakdown
  - Partner does not respond to the child's communicative behavior in an interactive setting
- Ambiguous Event
  - Partner's response to communicator appeared unrelated
  - Observer failed to make notations regarding the interactive setting or partner response column.
  - Communication function is not evident in the interactive event sequence.

Length of Sample

- Gather more than 25 Interactive Event Sequences
  - Twenty-five is the minimum number for establishing a "representative" sample.
- Record interactions between partner and communicator
 - Observe and record only (analyze later)

Joshua & Mom at Home

- Videotaped sample of an interaction between Joshua and his mother in the home context playing in the living room

- Observe the videotaped sample (5 minutes).

- At the end of the videotape, we will go back and review one video segment (Events 21-25) while you follow along with the completed sampling form (handout) of those events.

- Enter and code events on the CSA web-based application

Joshua & Mom 2007
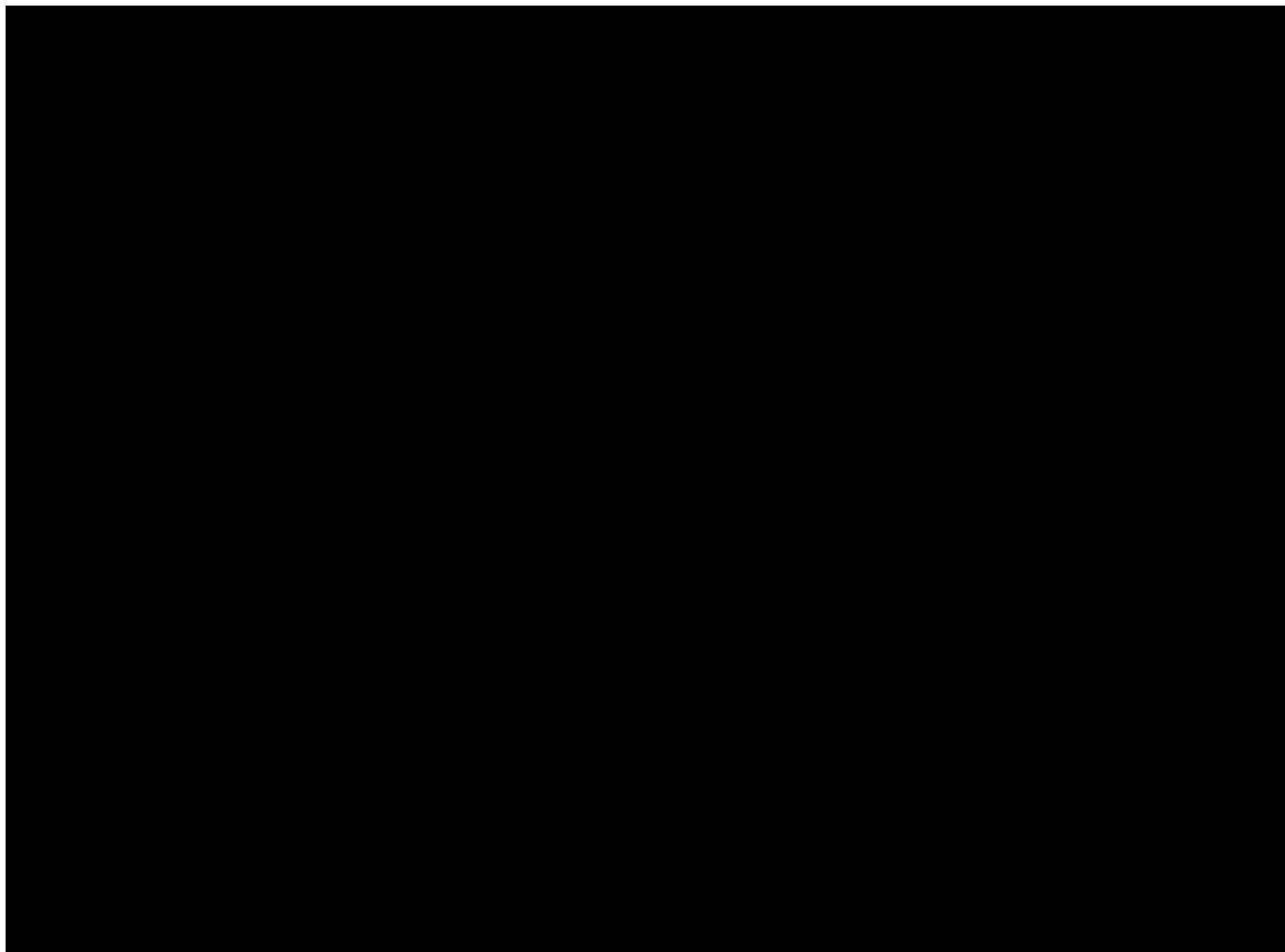
Accessing the CSA Website

Step One:

- Go to CSA website

https://csa.acts-at.com

- Log On as registered user
- Enter your communicator's profile

CSA Log-In

Communicator Information

Communicator Information, Edit record [Id: NEW]	
Gender	Male ✳
Birthdate (MM-DD-YYYY)	2/20/1999 ✳
Name	Justin ✳
Address	
Address	
City	
State	
Zip	
Phone	
Medical Diagnosis	Autism ⬍
Speech Diagnosis Primary	Dyspraxia ⬍
Other	
Speech Diagnosis Secondary	Developmental Language Disorder ⬍
Other	
Comments	
Speech Generating Device (if Avail)	

Save   Reset   Back to list

Analysis Procedures

- Enter your sample on Communicator Data Entry
- Code Communicative Means for each Communication Act
  - There will be more communicative behaviors (means) than there are interactive event sequences
- Code Communicative Functions for each Interactive Event Sequence
  - There is only one function coded for each interactive event sequence
- Code only complete Interactive Event Sequences
  - Check incomplete or ambiguous events and do not include in analysis

Communicator Data Entry

Communicator Data Entry, Edit Record

Session	CSA Baseline ✳
Event Number	26　　HELP
Context(s)	Classroom
Interactive Setting	Adult sitting at table writing
Observed Behaviors	Approached adult, touched her arm, gazed at her and then reached and looked at the play area
Partner Response	"You can go over there"
Means	PROX　　HELP
Means	REF
Means	EYE
Means	REF
Means	EYE
Function	RQP　　HELP

Save　　Reset　　Back to list

Code Communicative Means

Means	✓ **Please Select**	HELP
Means	DM	
Means	REF	
	REP	
Means	SIGN	
	VOC	
Means	VERB	
	FAC	
Means	EYE	
	PROX	
Function	AAC	HELP

Means Help Screen

Means	Examples
DM Discrete Motor Behavior Full or partial body movement that is distinct, differentiated, and conveys meaning	*Body extension *Lean toward *Turn away *Stand up *Move away *Clasp fists to chest *Bounce up and down
REF Referential Gesture Gestures that indicate or call attention to an object, person, or event. The referent is present in the environment	*Show *Point *Give *Reach *Take *Throw *Drop *Touch *Push *Pull
REP Representational Gesture Gestures used to convey meaning (semantic content). **Symbolic gestures** that represent some aspect of the referent (using object or portion of an object to depict an activity) **Conventional gestures** that are culturally defined and used as social markers. Includes an idiosyncratic gestures that individual uses consistently to convey specific meaning.	*Symbolic:* * Pantomime opening a jar *Stroke cheek to signal ÒgentleÓ *Brush action in front of teeth to represent toothbrush, *Tap top of head to say ÒyesÓ *Conventional*: *Head nod *Head shake *Wave *Summoning gesture

Functions Drop Down Menu

Means	PROX ▲▼	HELP
Means		
Means		
Means		
Means		
Means		
Function		HELP

Please Select
RQO
RQA
PDR
RQS
SAT
AF
GR
ACK
✓ RQP
RI
RQI
COM

Save

Functions Help Screen

Functions	Examples
RQO Request Object: Behaviors used to demand a desired tangible object	*Pushes partner's hand toward food item; *Reaches/points at a cup; *Answer to a "Which one?" question
RQA Request Action Behaviors used to ask or direct another to carry out or cease an action. Includes requesting assistance. The action rather than the object is the focus of the child's attention.	*Hands sealed container to partner while looking at the lid that needs opening; *Taps chair next to her wheelchair and looks at partner for him to sit; *Says "More _(action)_"; *Answer to a "What do you want to do?" question
PDR Protest/Deny/Reject Behaviors used to refuse, protest, or disapprove of an undesired object, action, or person Includes any form of negation, "No" or "Not" Includes disapproval	*Pushes the food away when an undesired food item is offered *Turns his head away from partner who is singing *Shakes head "No" *Pushes away the symbol of an undesired activity from an array of free-time activities *Signs "wrong"
RQS Request Social Routine Behaviors used to command another to commence or continue carrying out a game-like social interaction. Partner is familiar with the history of the routine or interaction repeats. The first request for a social routine is coded the specific function, e.g., RQA, RQO, etc. Subsequent requests for the same routine are coded RQS.	*Pulls partner's hands up t to play pat a cake; *Covers face or hides mother under blankie to request "Peekaboo" *Indicates through proxemics and facial expression that s/he wants to be chased *Says "More" (to continue a game-like routine) *Drops cup off table repeatedly and looks for humorous reaction

Completed CSA includes:

- ## Sample Report
  - Actual completed sample
- ## Summary Report
  - Numerical analysis of means and functions
- ## Narrative Report
  - PDF of a complete report with text fields to include examples as well as interpretive comments
  - Graphs to illustrate results of analysis

Sample Report

COMMUNICATION SAMPLE REPORT

Communicator's Name: Joshua	Birthdate: Current Age: 2 Yrs 10 Mos	Observer's Name: Marilyn Buzolich	Date of Sampling: 07-01-2007
Sampling Context: Home	Medical Diagnosis: Cerebal Palsy		Speech Diagnosis: Dyspraxia

EVENT #	INTERACTIVE SETTING — What's happening in the environment? What is the partner doing/saying right now? E.g.: While dressing her, Mom asks "Are you cold?"	OBSERVED BEHAVIORS OF COMMUNICATOR — What behaviors does the Communicator use to initiate or respond? What unaided &/or aided means does the Communicator use with the partner? E.g.: Child smiles + vocalizes "ah"	MEANS	PARTNER RESPONSE TO COMMUNICATOR — How does the partner respond to the Communicator? E.g.: Mom covers Child with blanket + says, "There you go."	FUNCTION
	Context(s): Home				
1	Mom and Joshua playing in the living room with his toys, "Do you want to pick something right, do you want to get something?"	Moves toward toys, extends left arm toward blocks, gazes at blocks	PROX, REF, EYE	"The blocks? Should we start with the blocks?"	RQO
2	"You want to stand up...first?"	Touches block and then touches mom's hand and touches, looks, and points to blocks again	REF, REF, REF, EYE, REF	"You want to build a tower?"	RQA
3	"You want to build a tower?"	/yeah/	VERB	"OK, let's do it."	AF
4	"Bongo, knock it down" after Joshua knocks down the tower.	Signs "more"	SIGN	"more?"	RQA
5	"More?"	vocalizes	VOC	"okay"	AF

Communication Summary Report

Name: Joshua	**Birthdate: CA:** 2 Yrs 10 Mos	**Clinician:** Marilyn Buzolich	**Date:** 07-01-2007
Context(s): Home			

Communicative Means Summary

Code	Means	Definitions	# in Sample	% of Sample
Gestures			**35**	**61.4**
DM	Discrete Motor Behaviors	Full or partial body movement that is distinct, differentiated, and conveys meaning; includes body extension or leaning	6	10.5
REF	Referential Gestures	Gestures that indicate or call attention to an object, person, or event. Referent is present in the environment; e.g. show, give, touch, pull	24	42.1
REP	Representational Gestures	Gestures used to convey meaning. Includes meaningful symbolic, conventional, culturally defined & idiosyncratic gestures	2	3.5
SIGN	Formal Signs	Formal visual-motor language systems, e.g., ASL, SEE	3	5.3
Vocalizations/Verbalizations			**7**	**12.3**
VOC	Discrete Vocalizations	Vocalizations that are distinct and differentiated	2	3.5
VERB	Verbalizations	Verbal word approximations, spoken words or phrases	5	8.8
Facial Expressions			**8**	**14**
FAC	Facial Movements	Facial movement, including idiosyncratic facial gestures conveying specific semantic content; e.g. smile, pout, kiss, tongue out ("yes")	8	14
Eye Gaze			**4**	**7**
EYE	Eye Movements	Gaze in direction of or fixate on person, object, or place; avert gaze; alternate gaze between objects, people, places; use of idiosyncratic eye movement to convey specific meaning	4	7
Proxemics			**3**	**5.3**
PROX	Proxemics	Approach a person, location or object; moving, crawling close	3	5.3
AAC System			**0**	**0**
AAC	AAC	Use of symbols, aid, strategies, techniques; activate SGD, point to or gaze at board, pictures, symbols; pick up & give symbol(s)	0	0
Total Number of Communicative Means			**57**	**100**
		Single Modality Communication Acts	**7**	**28**
		Multimodality Communication Acts	**18**	**72**

Communicative Function Summary

Code	Functions	Definitions	# in Sample	% of Sample
Behavioral Regulation			**10**	**40**
RQO	Request Object	Behaviors used to demand a desired tangible object	1	4
RQA	Request Action	Behaviors used to ask or direct another to carry out or cease an action, includes requesting assistance; focus is on the action	9	36
PDR	Protest/Deny/Reject	Behaviors used to refuse, protest, or disapprove of an undesired object, action, or person; Includes any form of negation	0	0
Social Interaction			**11**	**44**
RQS	Request Social Routine	Behaviors used to command another to commence or continue carrying out a game-like social interaction. Partner demonstrates familiarity with the routine or interaction repeats	5	20
SAT	Solicit Attention	Behaviors used to draw attention to self, others, objects, actions; includes teasing or conveying humor, warning, alarming or exclaiming to direct attention to self or something in the environment	1	4
AF	Affirm	Behaviors used to affirm or confirm, e.g., "yes"	5	20
GR	Greet	Behaviors used to express salutations & conventional rituals; e.g. hi	0	0
ACK	Acknowledge	Behaviors used to indicate notice or recognition of partner's behavior, previous statement or action. Involves focusing or shifting attention to partner. Includes politeness markers like please, thanks	0	0
RQP	Request Permission	Behaviors used to seek another's consent to carry out an action by oneself	0	0
Joint Attention			**4**	**16**
RI	Relay Information	Behaviors used to tell about something, initiated or in response to question or statement; to inform about object, event, person, activity	3	12
RQI	Request Information	Behaviors used to solicit information about an object, event, person or activity	0	0
COM	Comment	Behaviors used to express a belief or idea, or describe the physical attributes of an object, person, or event	1	4
Total Number of Events			**25**	**100**

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Narrative

CSA ☑ **Communication Sampling & Analysis**

Buzolich, Russell, Lunger-Bergh, & McCloskey
Revised January 2011

Communication Sampling and Analysis Narrative Report

Name: Joshua   Evaluator: Marilyn Buzolich

Birthdate: 2 years of age   Sampling Date: 07-01-2007

Communication Sampling and Analysis (CSA) is an assessment tool designed for infants, toddlers, and children with multiple physical, sensory, speech, and/or cognitive/linguistic challenges. CSA provides speech/language pathologists an objective (clinical) measure for observing and analyzing communicative behavior in the natural setting. The purpose of the CSA is to capture and qualify the nature and extent of communication behavior of the communicative challenged with partners during interactive settings and contexts. This is important for establishing baseline levels of communicative functioning, setting goals for intervention, and evaluating the effectiveness of treatment. For children with multiple speech, motor, sensory, and cognitive impairments, nonverbal behavior is an integral part of the child's profile at all levels of development; even children who use augmentative communication systems. CSA provides a tool to objectify a process that has been based on anecdotal observation rather than objective data.

For the purposes of this evaluation, Communication Sampling and Analysis (Buzolich, Russell, Lunger-Bergh, McCloskey, 2011) was conducted in the home context(s). The actual sample is attached for reference purposes. Communication was sampled during interactive settings such as Joshua and mom playing in the living room with his toys and provided information regarding the child's means and functions.

The evaluator, as a third party observer, sampled and analyzed 25 interactive events. A summary of the communicator's means is shown below.

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Communicative Means Graph
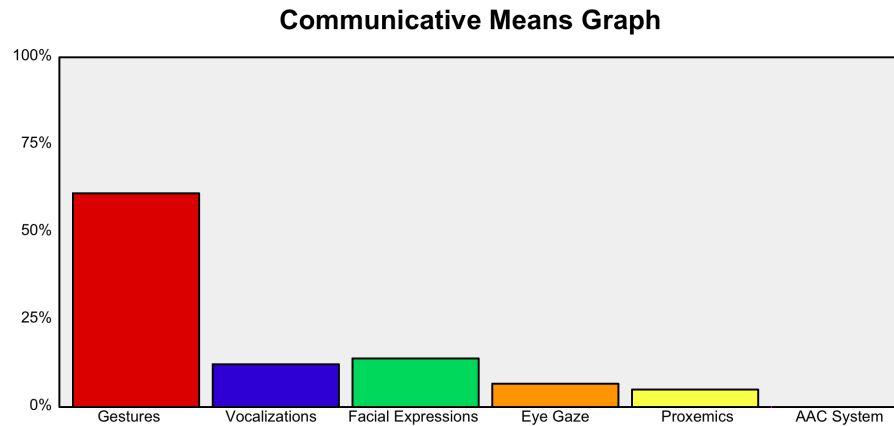
Of the interactive events sampled, 28% were single modality acts and 72% were multi-modality communication acts.

As shown in the graph above, 61.4% of the child's communication behavior was gestural. Of the gestures, 17% were discrete motor behaviors (e.g. arching back and moving his body forward or bouncing up and down), 69% referential gestures (e.g. pointing, reaching, touching, extending arm toward an object or location), 6% representational gestures (e.g. head nod), and 9% signs (e.g. more, eat).

Communicative Gestures Graph
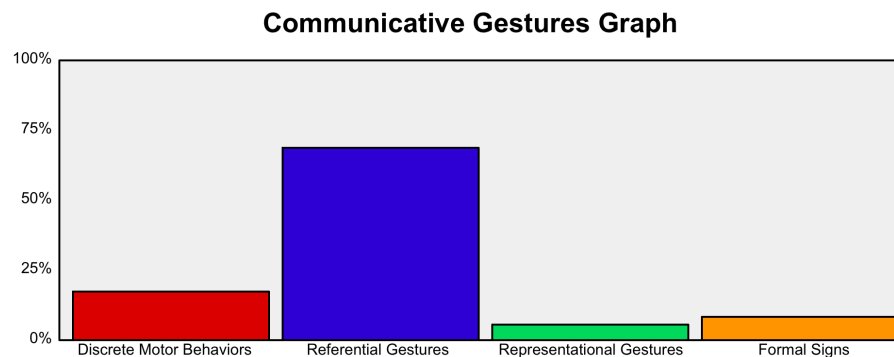
Vocalizations occurred 3.5% in this sample. Verbalizations occurred 8.8% (e.g. /heh/, /yeah/, /ah/, /duh/, and /geh/).

Facial expressions occurred 14% of the time and eye gaze occurred 7%. In this sample

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proxemics occurred 5.3% of the time. AAC systems were not used in this sample.

Joshua is primarily using gestures (referential) to communicate. He has limited verbalizations, and is relying on multi-modality communication acts (72%) of the time to convey meaning. Single modality communication acts occurred only 28% of the time and usually when meaning was conveyed with a sign or verbalization. It is not surprising that when using symbolic communication (sign, verbal speech) he is able to make himself understood using single modality communicative means.

A summary of the child's communication functions graph is shown below.

Communication Functions Graph
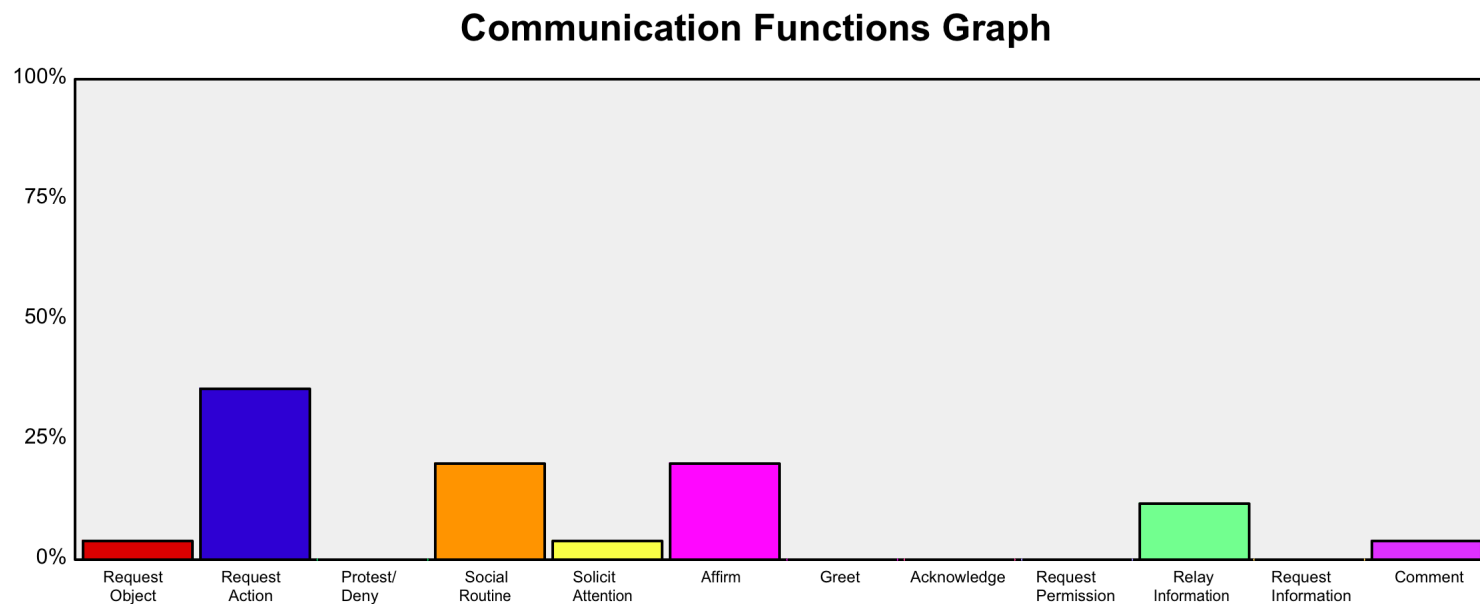
The child communicated primarily to request actions (36%), request a social routine (20%) and affirm (20%). In addition the child communicated to relay information, request objects, solicit attention, and comment.

A summary of the child's category of communication functions is illustrated on the next page.

Category of Communicative Functions Graph
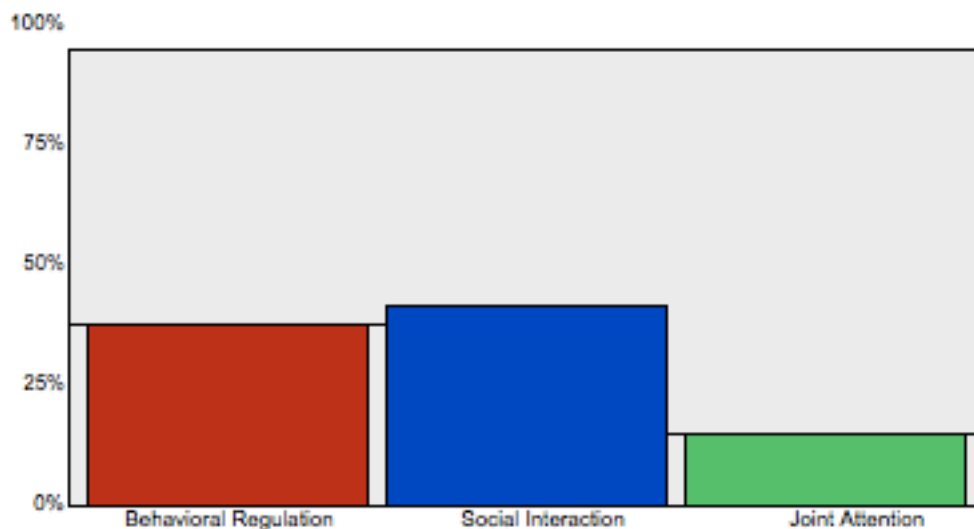
The child is communicating to regulate behavior 40%, interact socially 44% and establish joint attention 16% as shown above in the figure.

It is clear from the profile that Joshua's language is emerging. He is beginning to communicate to establish joint attention but clearly needs Augmentative Communication. He is not able to communicate enough using gestures (sign) and speech.

Marilyn J. Buzolich, Ph.D., CCCC-SLP
AAC Specialist
Speech/Language Pathologist

Clinical applications

Why do we use CSA?

What can we do with CSA data?

Sample to answer your question

- Possible questions
  - What is the baseline inventory of communication means & functions?
  - Are there differences between communication in different contexts?
  - Has there been a change in communication over time?

Get a baseline

What is the baseline inventory of communication means and functions?

- Sample with familiar partners
- Sample within familiar contexts
- Sample during routine interactive settings

Compare contexts

How is the child communicating across contexts (home and school)?

- Sample in each context (home & school)
- Sample with familiar partners in each context
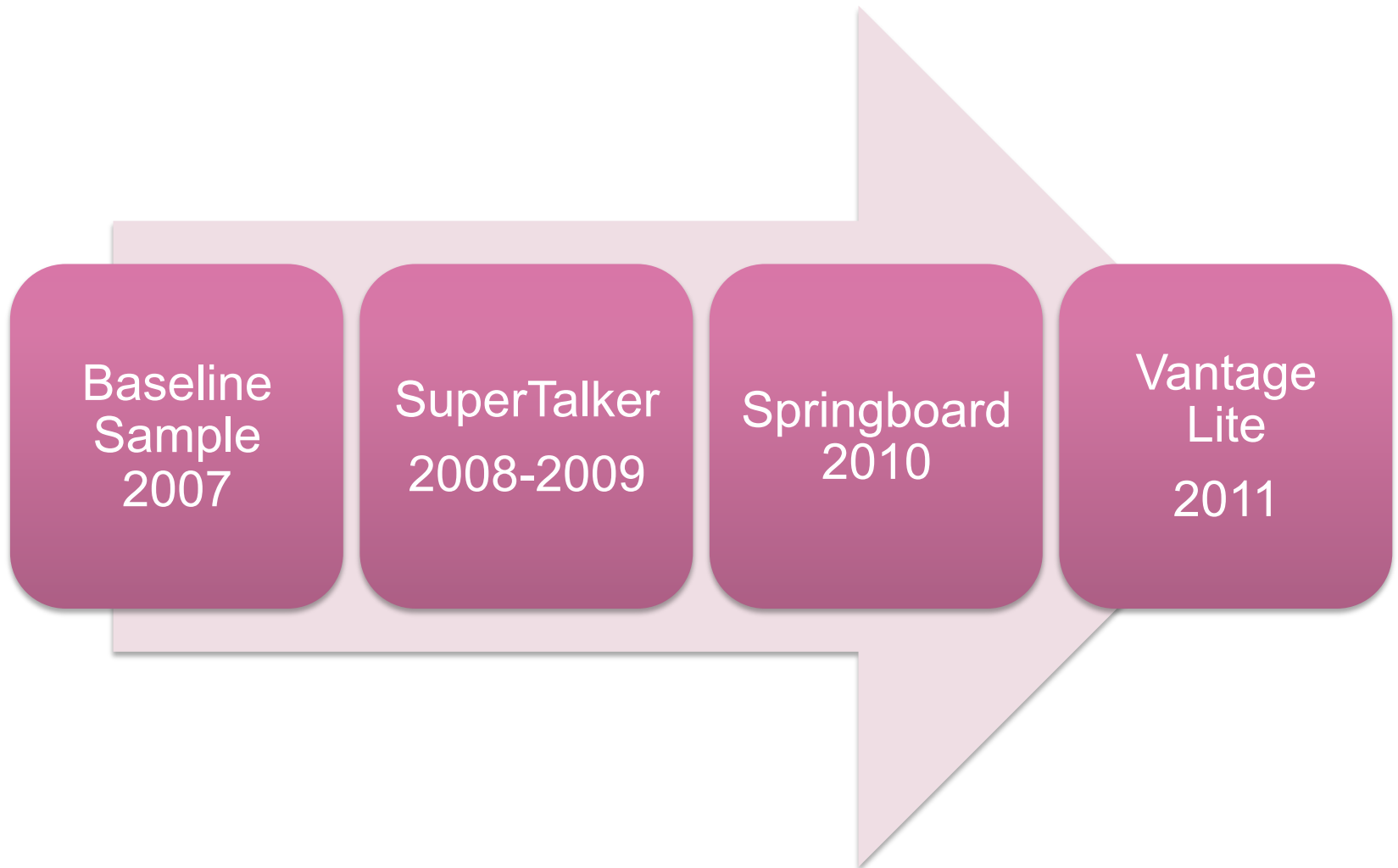- Sample during like activities (mealtime at home & school)
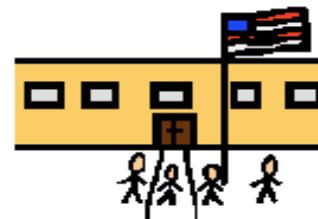
Progress

Has there been a change in the communication functioning of the child?

- Sample in similar contexts, interactive settings and with similar partners
- Compare baseline sample with post-treatment sample

Joshua CSAs

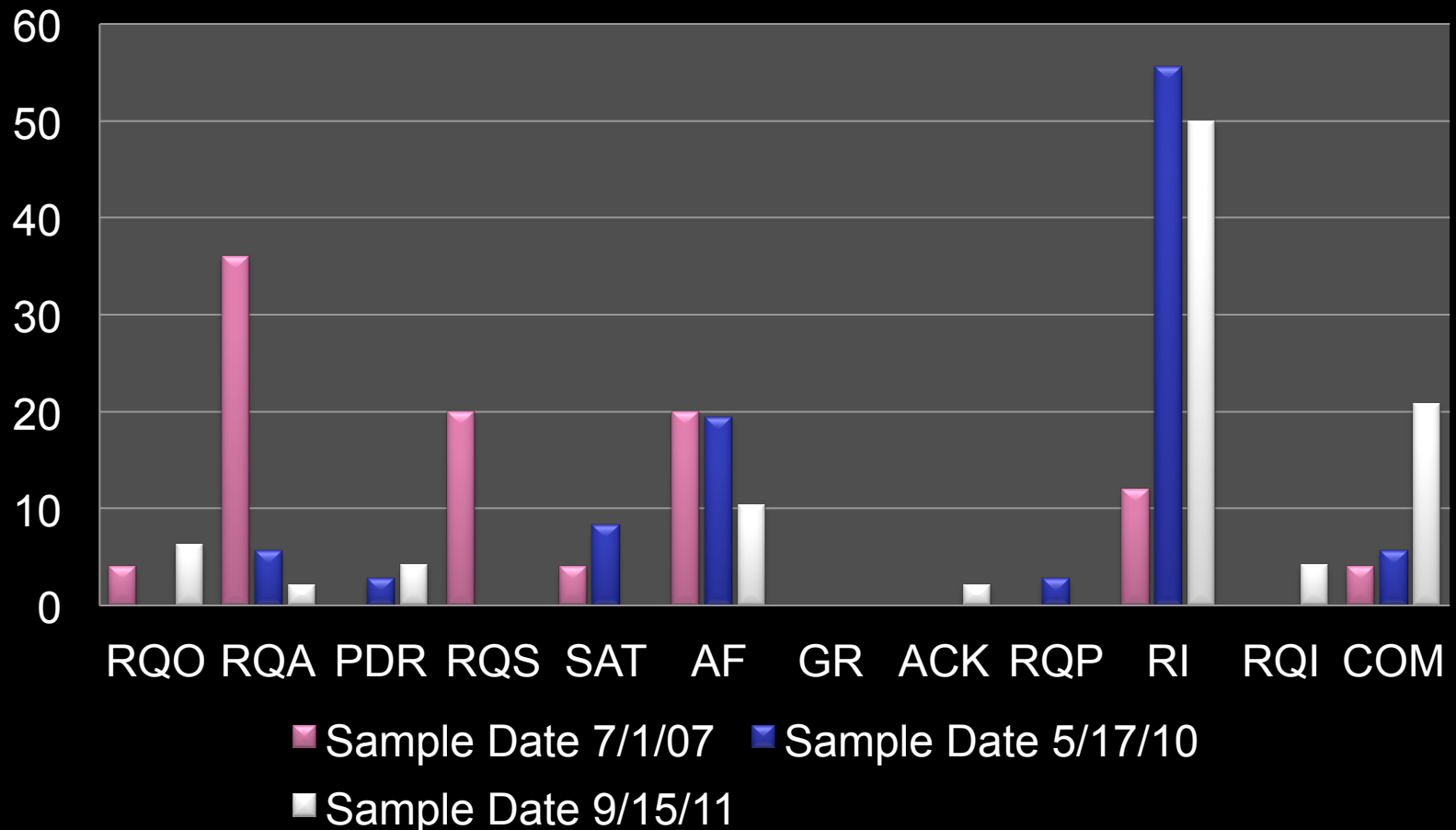Baseline Sample 2007 → SuperTalker 2008-2009 → Springboard 2010 → Vantage Lite 2011

Comparison of Means

Joshua's Communicative Means
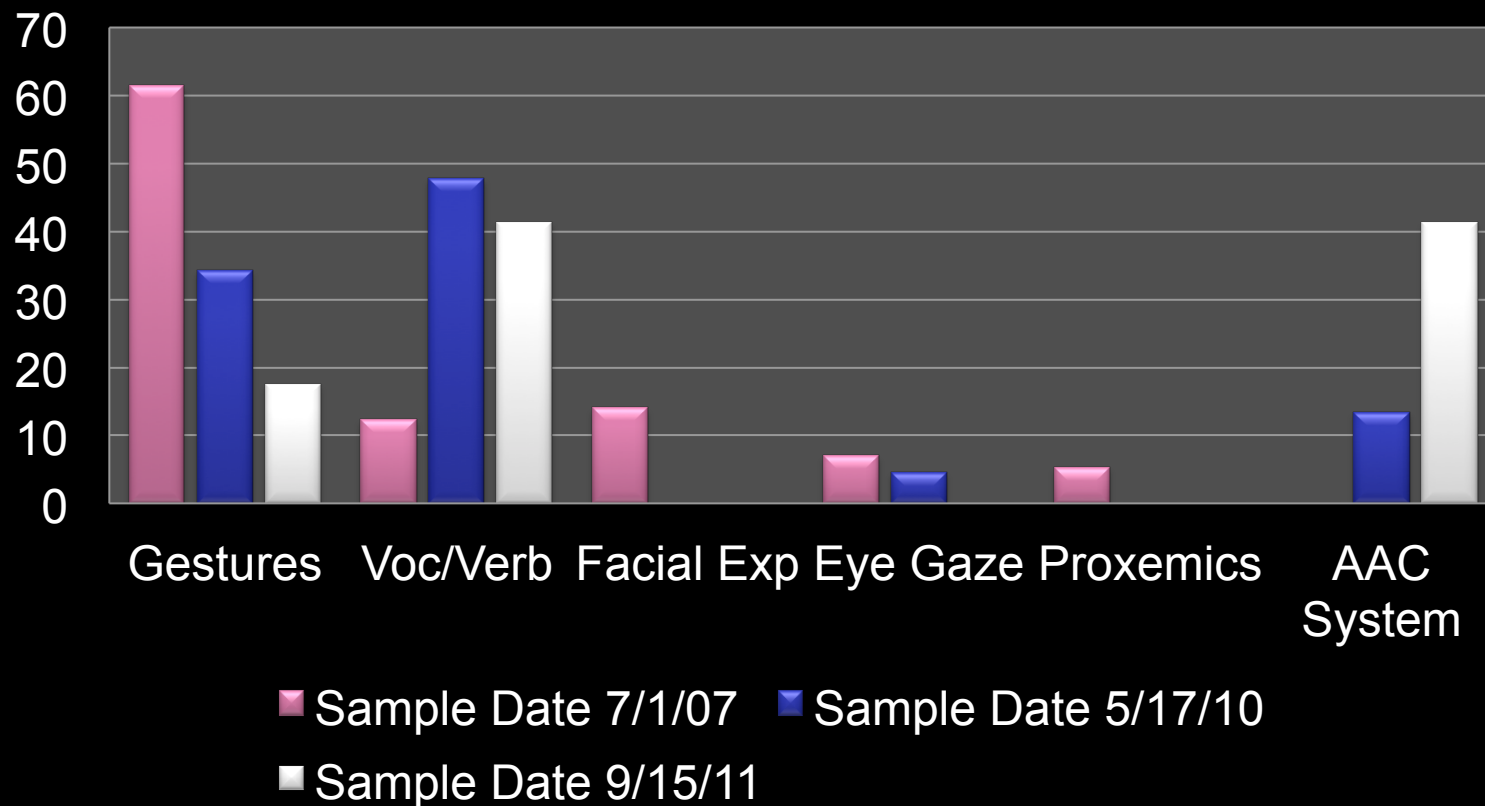
Comparison of Functions

Joshua's Communicative Functions

Categories of Function

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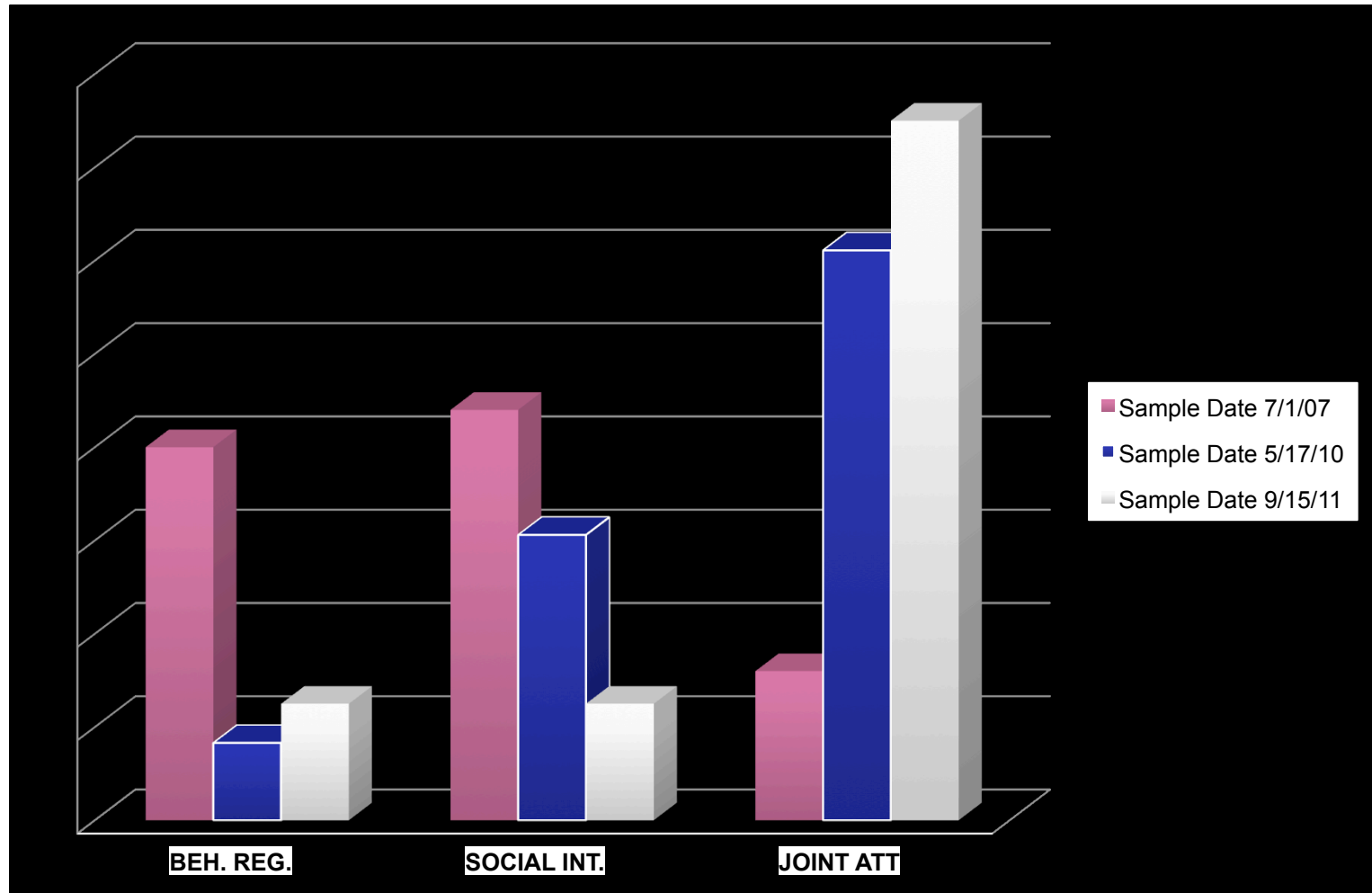
Comparison of Categories of Functions
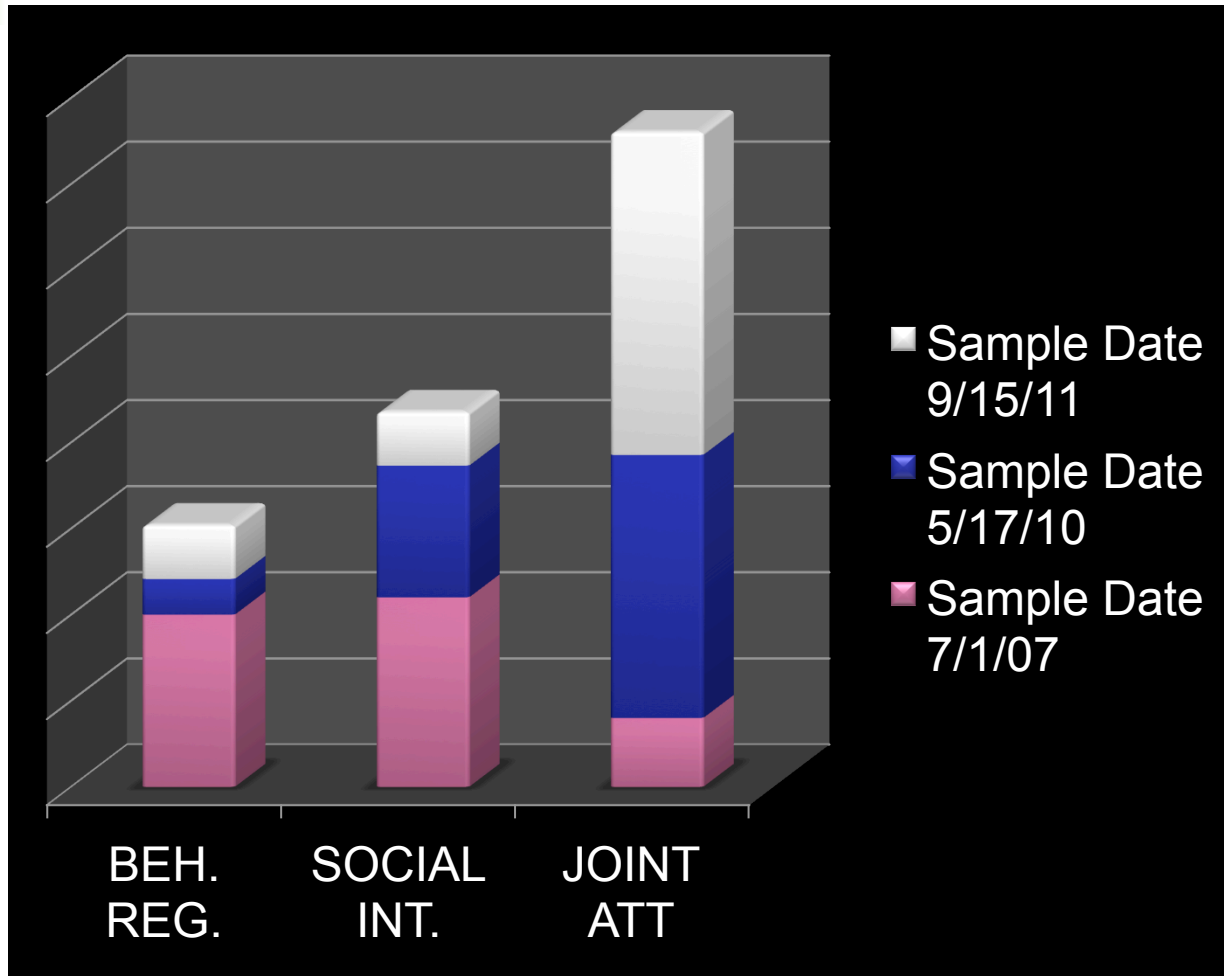
2009 Speech Emerges!

How can you use CSA?

- Include as part of an AAC Evaluation
- Establish a baseline communication inventory
- Sample AAC System Use (and language) in the natural setting
- Identify treatment goals
- Provide post treatment outcome measure
- Demonstrate differences between contexts or partners
- Justify the need for an AAC System

Other Applications: CSA & Language Sampling

- Sample communication while simultaneously sampling language
  - Use the language monitoring feature in the SGD
- Turn device sampling on only when collecting a communication sample
- Target 50 Utterances for separate Linguistic Analysis

2010 Joshua Personal Narratives using Springboard

CSA-Language Sampling

- Save text file on USB

- Complete CSA analysis on-line

- Use a language analysis tool such as PERT to analyze the text file

- Select and analyze utterances generated with the SGD that were a part of a Communication Act and included on the CSA Sample Report.

Joshua's Utterances

- 1　"Grandma Christine"
- 2　"Canada"
- 3　"desert"
- 4　"clean up"
- 5　"paper pen"
- 6　"airport"
- 7　"airport"
- 8　"run"

<u>Joshua's Utterances (Verbal/Gestural/AAC)</u>
<u>May, 2010</u>

1. and, and
2. Mommy and Grandma Christine
3. Canada
4. Orally attempts to spell "Allegra"
5. Desert
6. No
7. Clean up
8. Orally attempts to spell "Allegra"
9. Clean
10. Yeah
11. Clean up
12. Yeah
13. Clean up paper and pen
14. Yeah
15. and
16. and
17. Mama and I airport
18. Me and Mama and Daddy
19. Yeah
20. Daddy and Mama airport
21. and me
22. and
23. run
24. yeah
25. yeah run

25 Utterances
47 words; 19 different words
MLU 1.8

Direct Sampling of Language

- Sample utterances produced spontaneously by the communicator and include contextual notes.

- Analyze the utterances at 3 month benchmarks to track semantic, morphological, and syntactical development

- Maintain and update the expressive vocabulary list

Observe

Sample

Analyze

Target Language

Focused Intervention

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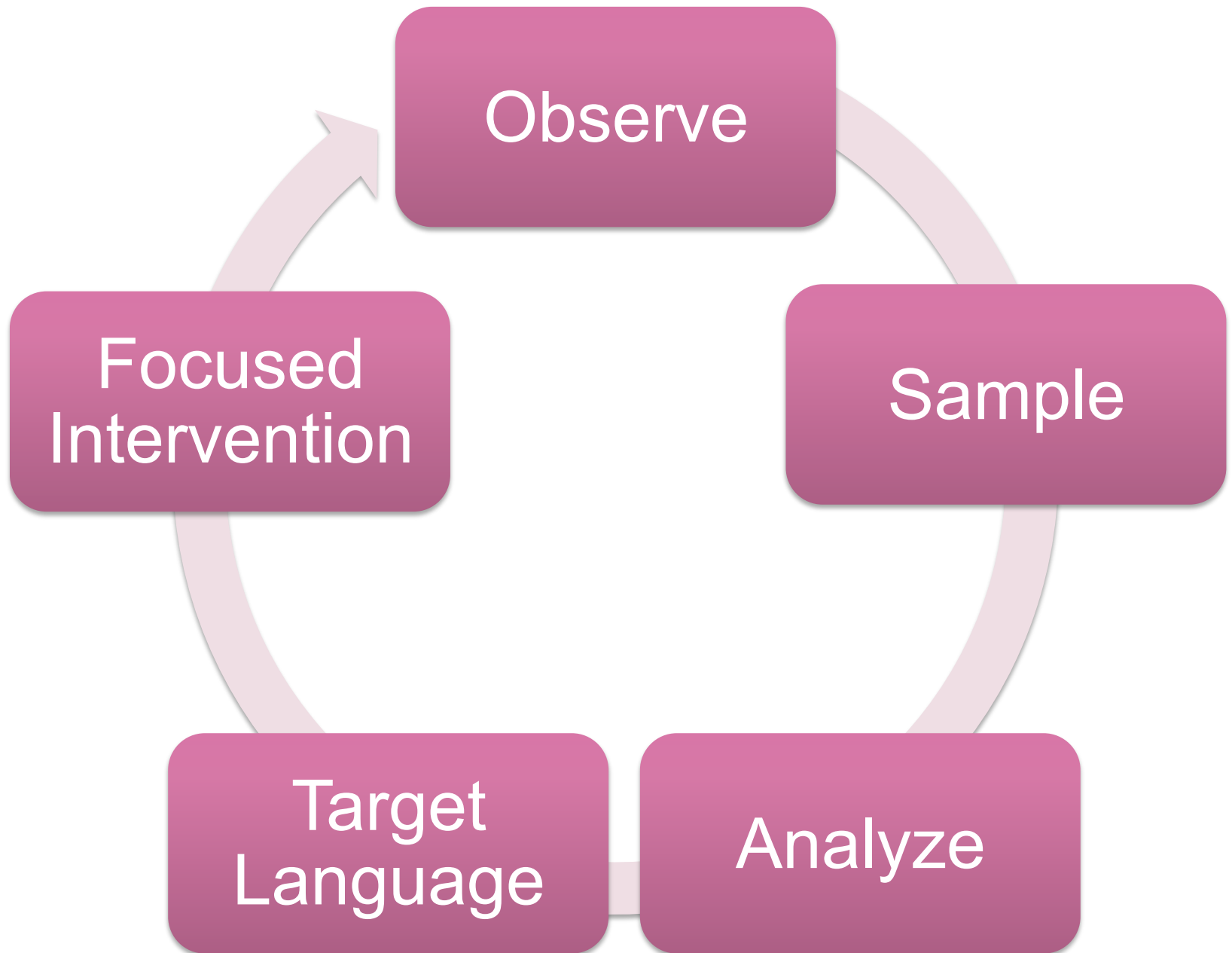
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