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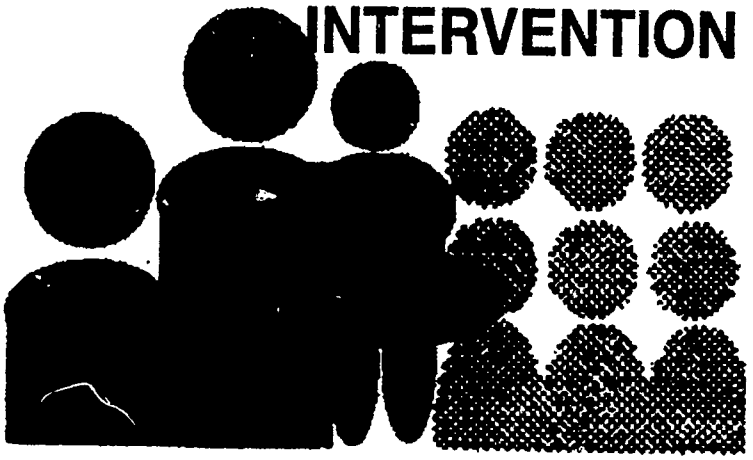
ABSTRACT

Project TIE (Teams in Early Intervention) was conceptualized to meet the need for: (1) involvement of formerly "ancillary" service professionals in early intervention for children with disabilities, (2) high quality family-centered services, and (3) training in the team approach. The project provides training to four groups that might constitute an early intervention team--speech/language pathologists, motor therapists, health care professionals, and family members. This training module on speech/language pathology examines reasons for consulting with speech/language pathologists; outlines a framework for effective communication; reviews what can be expected from a speech/language pathologist; and explores relationships with other expert groups (families, occupational/physical therapists, and health care professionals). A mechanism is presented for determining what other team members want from speech/language pathologists and for applying the expertise of speech/language pathologists to the Performance Competence Model to understand how children interact with their environment. Several overheads and handouts are appended. (JDD)

TEAMS IN EARLY INTERVENTION



Speech/Language Pathology Module

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TABLE OF CONTENTS

This module was designed to be used in conjunction with the INTRODUCTORY MODULE which includes the background and philosophical framework for the project as well as the essential information needed to use this module effectively. Read the INTRODUCTORY MODULE before using information in this module.

I. REASONS FOR CONSULTING WITH SPEECH AND LANGUAGE PATHOLOGISTS (SLP)

CONTENT SUMMARY: There are a number of concerns that families might express that would indicate the need for involvement by an SLP. These might include concerns in the areas of oral-motor and feeding behaviors, speech sound development, language development, or possible need for an augmentative communication system.

GOAL: Participants will develop an awareness of the reasons an SLP might be accessed.


1


1

A. Concerns/Questions

1. Presenting concerns about oral-motor and feeding behaviors can be reported in the areas of

   a. What the family notices

      1) problems sucking, chewing or choking

      2) frequent gasping

      3) excessive drooling

      4) sloppy eating

      5) aversion to having things in and around mouth

   b. What the SLP will assess

      1) sensory awareness in and around mouth

      2) structure and function of oral mechanism

      3) suck-swallow-breathe synchrony

      4) suck, bite, chew, swallow patterns

c. Problems in these areas

1) dysphasia

2) oral apraxia

3) oral-motor dysfunction

4) dysarthria

2. Examples of concerns in the area of speech sound development

a. My child is not...

1) babbling.

2) making sounds.

3) easy to understand.

b. My child is...

1) saying words differently each time.

2) mispronouncing sounds.

3) hard to understand.

c. The SLP will assess

1) oral-motor skills

2) respiratory patterns

3) types of sounds produced

4) phonological processes used

d. Problems in these areas

1) developmental apraxia of speech

2) speech delay/disorder

3) phonological disorder

3. A variety of concerns can be discussed in the area of language development

a. My child is not...

1) talking.

2) communicating.

3) being social.

4) putting words together.

5) volunteering to talk.

6) understanding words or directions.

7) able to get a message across.

b. My child is...

1) quiet.

2) withdrawn.

3) shy.

4) only repeating what someone else says.

c. The SLP will assess

1) cognitive and social prerequisites for language

2) auditory comprehension/processing

3) ways child is currently communicating

4) emerging forms of communication

d. Problems in these areas

1) language delay/disorder

2) cognitive delay

3) childhood aphasia

4) echolalia

5) elective mutism

6) autism

(NOTE: Hearing ability will be assessed when any communication problem is suspected.)

4. Finally, questions may arise about augmentative communication when a nonvocal communication system is being considered. These can include

a. "Will my child ever talk?"

b. "Is an augmentative system appropriate now?"

c. "Will an augmentative system keep my child from learning to talk?"

d. "What are the types of systems?"

5. The SLP, with consultation from other team members, wili consider

   a. Positioning for use of system

   b. Degree and range of motor control

   c. Responses to the environment

   d. Cognitive and social prerequisites for communication

   e. Potential communication systems

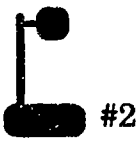
II. FRAMEWORKS FOR EFFECTIVE COMMUNICATION

CONTENT SUMMARY: Effective communication takes place in the context of an interaction between two people in a specific environment. An observational lens model is described by Silliman and Wilkinson (1991).

GOAL: Participants will learn one framework for looking at communication that highlights the many ways a child's communication can be viewed, as well as the need for the SLP to receive information from the other members of the team.

A. Observational Lens Model

1. Describe model components



a. Wide Angle — physical setting, participants, communication roles

b. Regular Lens — interactional system, e.g., physical aspects of the activity, cognitive components, how language is used, the social organization, and activities and topics

c. Close-up Lens — examines social circumstances that facilitate more effective communication

d. Micro Close-up Lens — examines the critical sources of communication breakdown

2. Different disciplines tend to use different "lenses" when observing a child.*

a. Speech-language pathologists and diagnosticians tend to use the **micro close-up lens** and look at breakdowns in specific skills and processes.

b. In recent years, speech-language pathologists are increasingly using the **close-up lens** by considering the interactions children have with other children and adults. They recognize that how children talk and what they talk about is dependent on their interactions with others.

c. Occupational therapists tend to use a **regular lens**, looking at the particular types of activities that children perform well or perform with difficulty.

d. Families see their children through a **wide angle lens**. They see how their child functions in a variety of environmental contexts.

*An ecologically valid assessment of a child requires that the child be seen through all of these lenses. Certain lenses, however, may be more important for some children than for others. For example, the breakdown level may be the most important for a child with an oral/verbal apraxia. This condition shows little variability with persons, activities, or environments. Many language learning differences and disabilities, on the other hand, are affected by the child's communication partners, because persons differ in the degree of support they provide to facilitate a child's comprehension and production. Current research in the area of intelligence proposes multiple intelligences, rather than a single intelligence. This implies that a child may be quite skilled with one type of activity, yet find other activities difficult. For example, children who exhibit significant difficulties on tasks requiring language processing, such as telling stories, may perform quite well on activities that rely on visual-perceptual skills, such as puzzles. Environmental contexts can affect children in a variety of ways. Children with significant cognitive disabilities may be able to perform only in highly familiar contexts. Children with attention disorders may perform well in environments free of distractions, but not in noisy environments with many other children.

III. WHAT CAN BE EXPECTED FROM A SLP

CONTENT SUMMARY: The SLP can be a resource for the team in many ways. These can include providing information about communication development, preverbal communication, and facilitation of communication.

GOAL: To provide participants with information about what the SLP can contribute to the team, and for participants to acquire specific information about speech and language development, and the facilitation of development.

A. Development

1. A framework for learning about communication development is provided which includes: behaviors that are often observed, "risks" at various stages of development, conditions that are often associated with these risk factors, and some possible therapy approaches. Development is presented in this way to provide an opportunity to generate discussion about the implications of differences that might occur in the "most likely" developmental sequence.

2. Review stated aspects of development in terms of:

   a. Behavior observed

   b. Developmental risk

   c. Associated conditions

   d. Possible therapy approaches

A slide presentation could be developed for this section to highlight developmental stages, developmental risks, and possible therapy approaches. A few slides could be used to demonstrate behaviors at each developmental stage.

B. Preverbal Communication

1. Communication begins in infancy and is manifested in caregiver-child interaction.

2. By 8-9 months of age, children intentionally communicate even though they are not producing intelligible words.

3. Through gestures, directed eye gaze, and facial expressions, children can communicate a variety of intentions.

   a. They can seek attention to themselves, objects, and other people.

   b. They can request objects, actions, or information.

   c. They can greet, show and give objects, protest, respond, and acknowledge actions or language directed to them.

Suggestion: A videotape may be used here to demonstrate a variety of preverbal communication strategies.

C. How to Talk to Children

1. The SLP can provide information about ways to talk to and interact with children that can help to facilitate good communication and improved language skills.

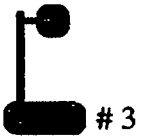

4, 5

2. Recommended strategies will vary based on the child's developmental level and communication style.

IV. RELATIONSHIPS WITH OTHER EXPERT GROUPS

CONTENT SUMMARY: The SLP will need a great deal of information from the family members to provide the best possible services. This can include specific information about the child's developmental history, family concerns, the child's communication skills, the family interaction style, and parenting strategies. Families may need to learn ways to convey to these professionals how important this information is to evaluation and treatment planning when the SLP has not been trained to understand its significance.

GOAL To delineate specific information needed by SLPs from the other expert groups (identify group) and specific information the SLP wants the other expert groups to know.



A. Families

1. Information needed from families related to communication.

   a. Situations/context that the child must function in

   b. Activities expected of the child throughout the day, e.g., what must the child be able to communicate

   c. Types of interaction experienced by the child, i.e., Who interacts with the child; in what ways; where do interactions take place? How does the child respond?

   d. What does the child do successfully in terms of communication; when does he/she break down?

2. What the SLP wants the family to know:

Trainer facilitates a discussion to generate ideas about sharing information with, and learning from, families.

B. OT/PT

1. The SLP will need ongoing interactions with the motor therapists to consider all aspects of a child's performance.

2. Specific areas of information to be shared

   a. Oral-motor, sensory, and motor skill

   b. Postural and respiratory support for communication

   c. Arousal and attention.

3. Professionals need to develop a common framework and vocabulary for communicating effectively about children receiving services from the team.

4. Information needed from OT/PT related to communication

   a. Context/activities that facilitate communication interactions

   b. Sensory and motor information that could be related to communication breakdowns

   c. Ways to intervene when motor and/or sensory issues may be affecting interaction or communication

5. What the SLP wants the OT/PT to know

   a. In addition to needing support and information from the motor therapists, there are a number of areas that the SLP would like to bring to the attention of the motor therapist.

      1) normal development of communication

      2) how to talk to children

      3) issues regarding augmentative communication

      4) prelanguage issues

      5) social and emotional development

      6) play

C. Health Care Professionals

1. The SLP will want to have specific information regarding medical concerns, impressions, diagnosis, and treatment.

2. Communication should take place in the context of a mutually supportive and respectful professional relationship.

3. Information needed from the HCP related to communication.

Facilitate discussion about the relationship between SLPs and HCPs.

   a. Be alert to the "most likely outcome" in terms of communication development (examples to include Down Syndrome vs. Fragile X Syndrome)

b. Provide prognosis and direction for treatment and predict patterns that may emerge in later development

c. Learn about the relationships between medical conditions and communication disorders

d. Be alerted to issues regarding medication management

e. Generate appropriate referrals

4. What SLP would like the HCP to know: in addition to needing support and information, there are a number of areas that the SLP would like to bring to the attention of the HCP.

a. Normal communication development

b. Therapy approaches

c. Philosophy of treatment

d. What therapy can do/can't do

e. Evaluation procedures and implications

f. Relationships between early medical conditions and communication development

g. Information regarding appropriate referrals

I. SYNOPSIS OF INFORMATION SHARED IN OTHER GROUPS

CONTENT SUMMARY: A condensed version of the major points covered in the Family content for the other three areas (OT/PT, SLP and HCP) will be discussed.

GOAL: SLPs will learn the information that was shared by SLP lectures with each of the groups of professionals and families.

#1, 2, 3, 4, 5

NOTE: Give out same hand-outs which were distributed to other discipline groups.

A. Reasons for Consulting With SLP

B. Framework for Understanding Effective Communication

C. Information That Can Be Expected From SLP

II. WHAT DO OTHER TEAM MEMBERS WANT FROM SLPs?

CONTENT SUMMARY: Content will depend upon the discussion with each of the groups. Fill in outline below with notes from disucssion.

GOAL: SLPs will understand and discuss what other team members need from them to develop a team that works efectively with young children and their families.

Use chart pages that were posted in each discipline group.

A. OT/PT

B. Heath Care Professionals

C. Families

D. What Did the SLP Group Hear From Others During Part II? (Fill in discussion above.)

III. APPLICATIONS OF SLP EXPERTISE TO PERFORMANCE COMPETENCE MODEL

CONTENT SUMMARY: The Performance Conpetence Model provides windows to understand how children interact with their environment. It can be viewed in relationship to development as a whole with specific emphasis on the development of communication skills.

GOAL: SLPs will be given the same framework as all other team members for asking questions about how to support a child's performance. The model will be related specifically to the early development of communication skills.


6, 7

A. Givens

1. Predispositions

2. Basic biological drives

B. Underlying Factors for Producing an Efficient Adaptive Response


7, 8, 9, 10, 11

1. Internal self-regulatory functions

2. Purposive system

3. Ability to achieve, change, and maintain state of arousal

4. Freedom and control of movement


12, 13, 14, 15

5. Orientation to stimulus

6. Discrimination

7. Attention (or selective attention)

C. Developmental Sequence

1. Comfort/safety
2. Confidence
3. Risk-taking
4. Competence

D. What We Think, Feel, and Do

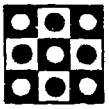
1. Spiritual
2. Emotional
3. Intellectual
4. Physical

E. Environment and Culture

1. Quality of life
2. Membership
3. Personal sense of competence

IV. CASE STUDY APPLICATION TO PERFORMANCE COMPETENCE MODEL

CONTENT SUMMARY: Participants will discuss specific aspects of thre different children's performance in relation to the Performance Competence Model. (See game cards in Introductory Module.)



GOAL: SLPs will use mini-case studies to practice applying the model to gain information about the performance of young children.

A. Newborn—Child Prenatally Exposed to Drugs/ Alcohol

B. 1 year old—Child with Down Syndrome

C. 2 year old—Child with Delayed Language Development

OVERHEADS

&

HANDOUTS

SLP

WHAT FAMILY NOTICES	THINGS SLP LOOKS FOR	WHAT SLP MIGHT CALL IT
Problems with suck	Sensory awareness in and around mouth	Dysphagia
Problems chewing	Status of oral mechanism	Oral apraxia
Choking (gagging)	Suck-swallow-breathe synchrony	Oral-motor dysfunction
Gasping	Suck, bite, chew, swallow pattern	Dysarthria
Doesn't like things in mouth		
Excessive drooling		
Picky eater		
Sloppy eater		

Not babbling	Oral motor skills	Developmental apraxia
Not making sounds	Respiratory patterns	Speech delay/disorder
Saying words differently each time	Types of sounds produced	Phonological disorder
Mispronouncing words	Phonological processes used	
Hard to understand		

WHAT FAMILY NOTICES	THINGS SLP LOOKS FOR	WHAT SLP MIGHT CALL IT
Not talking	Cognitive & social prerequisites for language	Language delay/disorder (expressive or receptive)
Not "trying" to communicate	Auditory comprehension/ processing	Cognitive delay
Not social	Ways child is communicating	Childhood aphasia
Not putting words together	Emerging forms of communication	Echolalia
Doesn't "volunteer" to talk		Elective mutism
Doesn't understand words or directions		(Autism)
Selective listening		
Repeats what other people say		
Not able to get a message across		

SLP

FAMILY QUESTIONS

Concerns regarding a possible augmentative system:

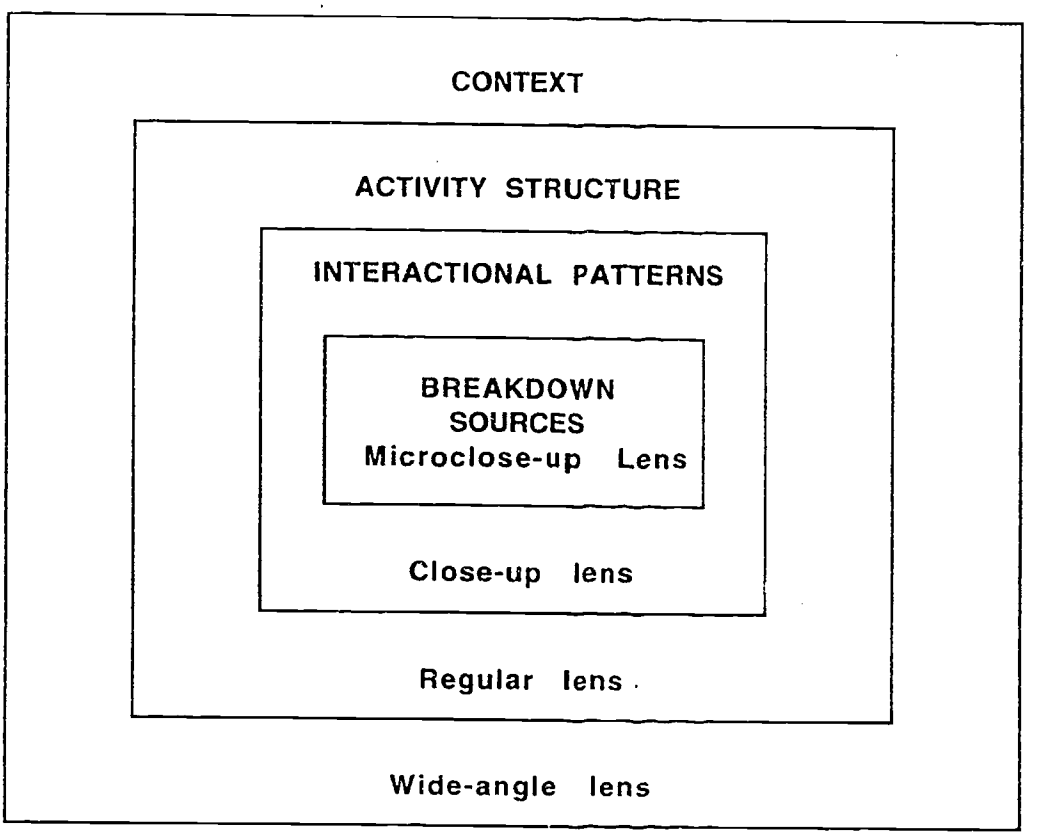
Will child ever talk?
Is augmentative system appropriate or when will it be appropriate?
Will it keep child from learning to talk?
What are the different kinds?

THINGS SLP LOOKS FOR

Positioning
Degree and range of motor control
Responses to environment
Social & cognitive prerequisites for communication
Possible means of communication

SLP

Observational Lens Model



Wide angle lens - wide angle view of situations, activities, and conversational partners that lead to judgment about personal attributes, sources of failure, and sources of success.

Regular lens - a description of the interactional system underlying the particular event.

Close-up lens - gives observer finer detail regarding a specific layer of classroom discourse and its effects on a group as a whole or an individual.

Micro close-up lens - observations of interactional patterns are sifted into a finer layer for the purpose of examing critical sources of communicative breakdowns.

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Information Needed from FAMILIES Related to COMMUNICATION

* What situations/context must the child function in?

* What activities are expected of the child throughout the day?

* What types of interactions are experienced by the child?

* When does the child communicate effectively....when does he/she break down?

SLP

Information Needed from OT/PT Related to COMMUNICATION

* What sensory and motor context/activities appear to facilitate communication?

* What sensory and motor information could be related to communication breakdown?

* How can the SLP intervene in interaction when motor and/or sensory issues may be affecting interaction or communication?

Specific medical information can help the SLP:

* Be alerted to the most likely outcome in terms of communication development

* Provide prognosis and direction for treatment and predict patterns that may emerge in later development

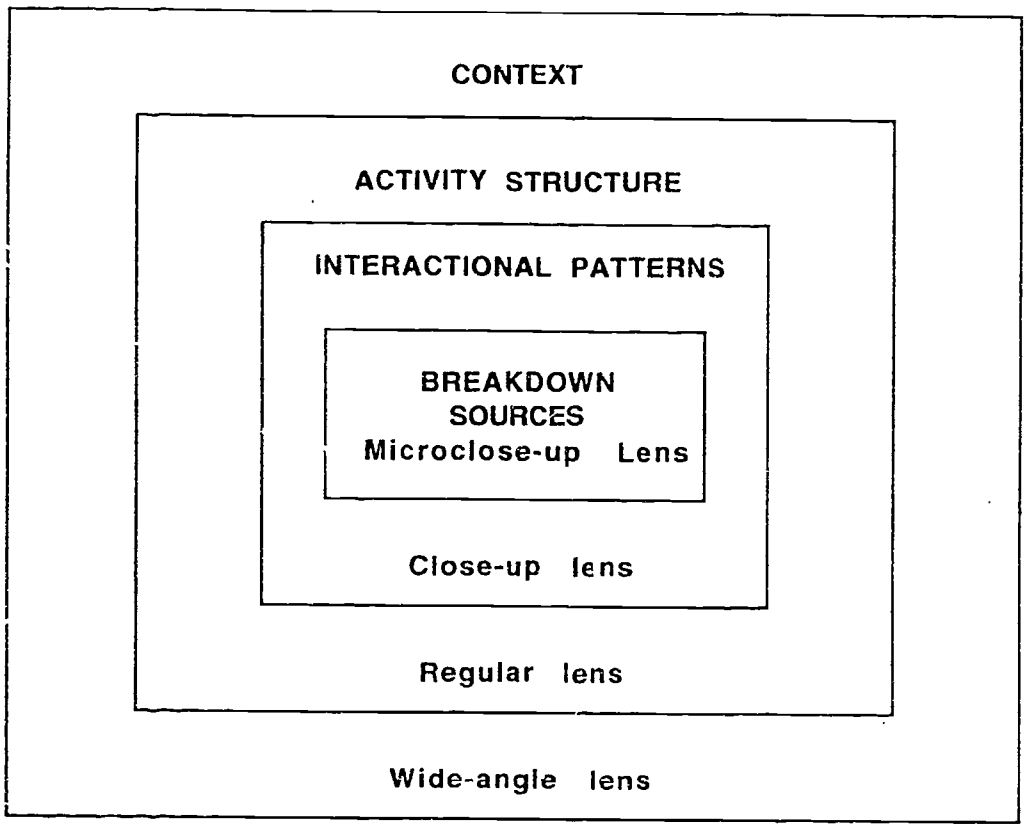
* Learn about the relationships between medical conditions and communication disorders

* Be alerted to issues regarding medication management

* Generate appropriate referrals

What Family Notices	Things SLP Looks For	What SLP Might Call It
-Problems with suck -Problems chewing -Choking (gagging) -Gasping -Doesn't like things in mouth -Excessive drooling -Picky eater -Sloppy eater	-Sensory awareness in and around mouth -Status of oral mechanism -Suck-swallow-breathe synchrony -Suck, bite, chew, swallow patterns	Dysphagia Oral apraxia Oral-motor dysfunction Dysarthria
-Not babbling -Not making sounds -Says words differently each time -Mispronounces sounds -Hard to understand	-Oral motor skills -Respiratory patterns -Types of sounds produced -Phonological processes used	Developmental apraxia Speech delay/disorder Phonological disorder
-Not talking -Not "trying" to communicate -Not social -Not putting words together -Doesn't "volunteer" to talk -Doesn't understand words or directions -"Selective listening" -Repeats what other people say -Not able to get a message across	-Cognitive & social pre-requisites for language -Auditory comprehension/processing -Ways child is currently communicating -Emerging forms of communication	Language delay/disorder (expressive and/or receptive) Cognitive delay Childhood aphasia Echolalia Elective mutism (Autism)
-Concerns regarding a possible augmentative system: Will child ever talk? Is augm. sys. appropriate or when will it be appropriate? Will it keep child from learning to talk? What are the different kinds?	-Positioning -Degree and range of motor control -Responses to environment -Cognitive & social prerequisites for communication -Possible means of communication systems (adapted from Chris Brown, 1991)	

Observational Lens Model



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Developmental Characteristics, Developmental Concerns and Intervention Guidelines: 0-3

Age Range	Behavior	Developmental Risks: What Can Go Wrong	Assoc. Conditions	Possible Therapy Approaches
Birth to 2 months	Regulation and interest in world Can terminate interaction Shows response to mother's voice Mutual eye gaze Differentiated cry Efficient sucking Primitive reflexes	Lack of self-regulation No mutual eye gaze Lack of response to voice Strange cry/much crying Difficult consoling/poor soothability Resists cuddling Problems with suck/seal	Prematurity Syndromes (Down, Cri du Chat, etc.) Poor vision/poor oculomotor control Poor head control Poor hearing Poor sensory processing	Focus on caregivers' reading and responding to early cues
2 - 4 months	Preferential response to smiles Cooing and gooing Repeats pleasant behavior Can start and stop interactions Tracks objects	Lack of clear cues/lack of affect Lack of sense of preference Minimal vocalization Inability to calm self Doesn't start and stop interactions	As above Intubation/gastrostomy Respiratory distress Deficits in sensory/motor integration Developmental delay Failure to thrive Abuse and neglect	Continue above Health and motor development for facilitating stronger signalling cues
4 - 8 months	Through generalized movements, indicates desire for repetition of activity Reaches toward or moves toward desired object Turns to mother's voice Laugh triggered by touch Babbling/vocal play (increased variety of sounds-influenced by body posture) Variety of facial, gestural expressions Interest/exploration of objects	Minimal/uncoordinated movement Not achieving motor milestones Baby avoids or doesn't respond to touch Lack of/limited sound play Minimal expression of emotion Decreased exploration	As above Begin diagnosing specific motor disorders Parents begin to suspect a problem Otitis media	As above Caregiver begins to follow child's lead Modulate nonverbal expressions and vocalizations (reduce or intensify)
8 - 12 months	Specific means to achieve goals Variety of actions on objects/exploration Joint attention Comprehension of "no" and familiar words Intentional communication for variety of purposes Beginning adult-like intonation Imitates new sounds that are similar to those already produced Turn-taking routines (verbal/nonverbal) Some imitation of familiar facial expression	Limited exploration of toys Limited intentional communication/few purposes for communication Lack of interest in people or objects Decrease in sound production/imitation of new sounds Noted lack of affect	As above Deafness Blindness Specific communication impairment Questions of possible autistic-like behavior might arise	As above Caregiver follows child's lead Turn-taking routines Verbally code child's intentions Use of simple familiar language (imitation/ expansion) Simple oral activities Positioning for play and vocal interaction

Westby & Laurel, 1992, Training Unit, UAP/UNM

Age Range	Behavior	Developmental Risks: What Can Go Wrong	Assoc. Conditions	Possible Therapy Approaches
12 - 17 months	Refine and integrate 8-12 month activities Directed protests/tantrums Points to desired object Starts to use words to communicate/increase of communicative functions Jargoning May show preference for words that have certain sounds Functional use of objects Initiates routines More sophisticated use of objects to get attention and interact	(Continue issues of 8-12 months) Frequent intense, lengthy tantrums (escalation of tantrums) Overly compliant as compared to others in the culture Failure to follow directions/ failure to understand names Different quality of interactions	Same as above	Same as above
17 - 24 months	Symbolic behavior (play and language) Marked increase of vocabulary Stability of vocabulary Expression of semantic relationships Responds to speech with speech Conventionalized forms of behavior to refer Use of alternative strategies to achieve goals Comprehension of words when referent not present Child can get most messages across Speech simplification strategies (i.e., final consonant delation, syllable reduction, consonant cluster reduction, prevocalic voicing, consonant harmony) Substantial increase in imitation of facial expression	Refining oral motor skills Can't get message across Unintelligible to parents Easily frustrated in communicative attempts Use of unusual or overly frequent use of speech simplification strategies (i.e., deletion of initial consonants, vowel distortion, glottal replacement, backing) Inconsistency in articulatory production Limited vocabulary Slow speed in learning vocabulary Not using a variety of semantic relationships Doesn't follow directions Extreme "shyness"	Specific language disorder Dyspraxia Motor speech disorder Speech sound disorder/ phonological process disorder	Can continue earlier strategies More structured activities designed to meet goals (in context of play); create opportunity to use targeted language and speech sounds Specific language teaching strategies (imitation, expansion, parallel, talk, waiting, modeling) Need direct involvement of speech pathologist Possibility of joint treatment

Age Range	Behavior	Developmental Risks: What Can Go Wrong	Assoc. Conditions	Possible Therapy Approaches
2 - 3 years	Beginning reference to past and immediate future Development of play events that are of less frequent experiences or in which child was not an active participant Development of play sequences Increasing sentence length Asks and answers what, where, who...doing questions Use of morphological markers and auxiliary verbs Adult speech can inhibit child's action Beginning associative play	Doesn't play like other children Doesn't interact with other children Maintains "baby-talk" Doesn't understand questions Unintelligible	Same as above Autistic/"autistic-like"	Same as above

Sources Cohen & Donnellon, 1987
Dunst, 1980
Greenspan & Greenspan, 1985
Khan & Lewis, 1986
Patterson & Westby, in press
Schlefelbusch, 1980
Westby, in press

Westby & Laurel, 1992 Training Unit, UAP/UNM

SLP

LANGUAGE FACILITATING STRATEGIES: BABIES

* Answer your baby
* Use a special voice
* Imitate
* Respond from a distance
* Be sensitive to cues
* Repeat key words
* Pause often
* Follow baby's lead

Adapted from: "Talking to Babies; Mother-Infant Communication Project"

LANGUAGE FACILITATING STRATEGIES: TODDLERS

* Repeat words
* Encourage conversation
* Ask questions - and give time to respond
* Expansion
* Say the names of things
* Answer and explain in a simple way

Adapted from: "Talking to Toddlers; Mother-Infant Communication Project"

Adult Teaching Strategies

Upping the Ante - adult requires progressively higher levels of communication from the child by using a contingent nonlinguistic or linguistic request.

C: (points to cookies and vocalizes)
A: What did you say?
C: Cookies.

C: (reaches for toy on shelf)
A: (looks at child and shrugs shoulders)
C: Ball.

References: Bruner 1977; MacDonald, 1982

Encoding - an utterance by the adult which codes meaning expressed nonlinguistically by the child.

C: (points to car)
A: Yeah, that's a big car.

C: (looking in book and laughs)
A: Yeah, that's a funny picture.

References: Lombardino & Mangan, 1983; MacDonald, 1982

Wait and Signal - adult waits with clear visible anticipation (e.g., mother pauses, raises her eyebrows and opens her mouth) while looking at the child with expectation for the child to take his/her turn.

A: What's this? (pauses and looks at child)
A: Huh?

References: MacDonald, 1982

Parallel Talk - an utterance by the adult that relates the action of either the parent or child as they are occurring during joint attention/action.

A: (changing child's diaper)
You have a dirty diaper. Let's take it off. Change your diaper.

C: (playing with blocks)
A: Play with blocks. Stack them up. Knock them down.

Reference: Mumaw, 1978; Russo & Owens, 1982

Referencing - a non-verbal behavior that directs the child's attention to an object or event by use of a discrete, visible movement.

A: Let's play with the blocks. (shakes blocks in container)
C: (looks)
A: Blocks. (points to blocks)

References: Mahoney & Seely, 1977; McLean & Snyder-McLean, 1978

Modeling - adult requests a child behavior by demonstrating the desired motor, vocal or verbal behavior.

A: (holds up cup) Say cup.

A: (bangs on xylophone) Do this.

Reference: Moerk, 1972, 1974

Imitation - adult utterance which repeats exactly or in part the child's preceding utterance.

C: (points to ball) Ball.
A: Uh huh, ball.

References: Brown & Bellugi, 1964; Cross, 1977; Moerk, 1972, 1974

Expansion - adult utterance which extends the preceding child utterance to a more grammatically complete one.

C: Baby. (picks up doll)
A: That's a baby.

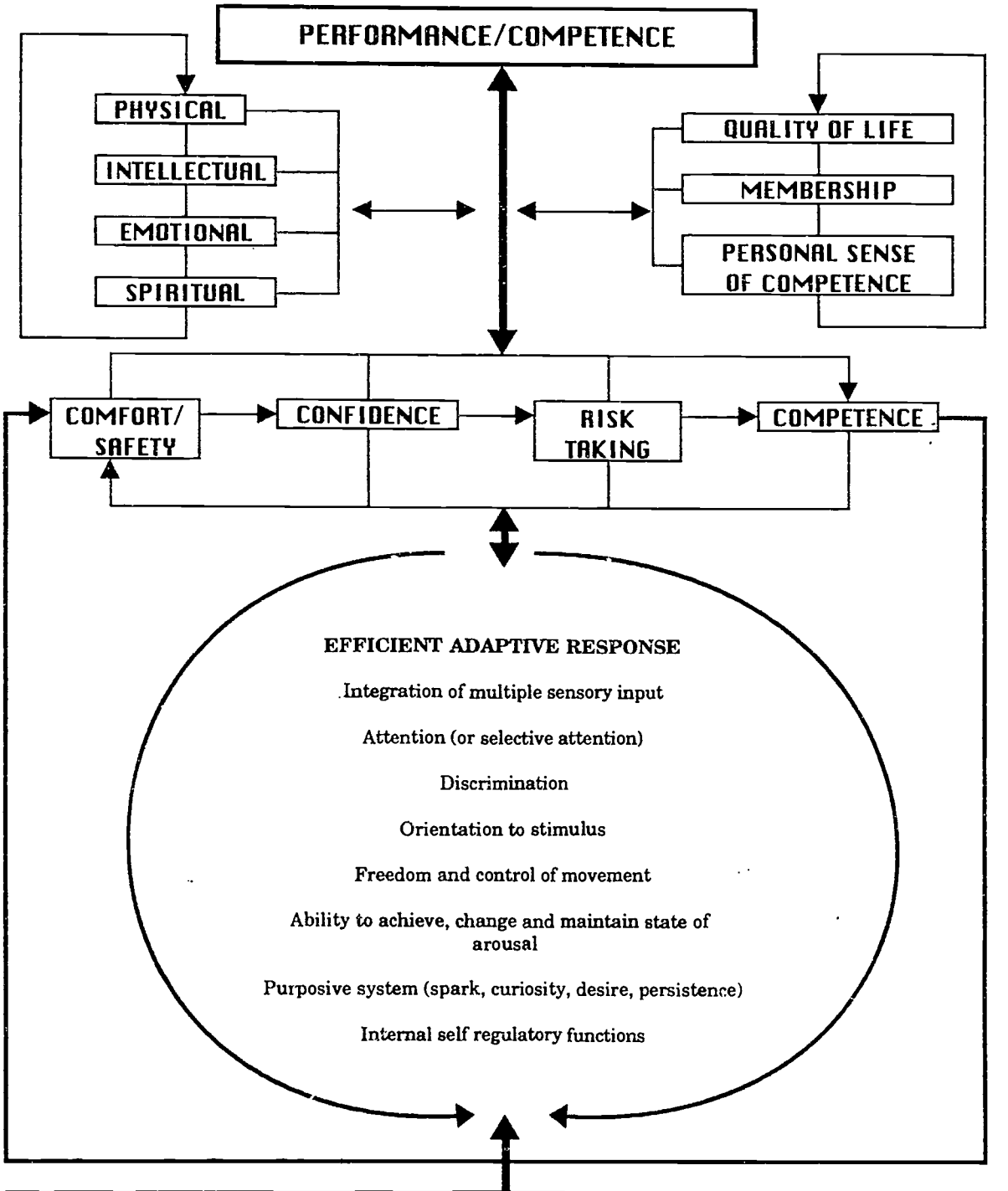
References: Brown & Bellugi, 1964; Cross, 1977; Moerk, 1972, 1974

Labeling - adult provides a word for an agent or object in the environment which is not contingent upon a previously asked question or verbal cue.

A: This is a doll just like your doll at home.
(takes doll out of toy box)

References: Broen, 1972; Bruner, 1978

Compiled by: Laurel & Lombardino, 1981



Predispositions (temperament, culture, physiological status, genetics, styles)

Basic biological drives (Combine processes into an integrated system, Strive for equilibrium and, Fulfill developmental cycle)

Oetter & StevensDominguez, 1991, Training Unit, UAP/UNM

SLP

INFANT-CAREGIVER

RECIPROCAL INTERACTION

Specific infant attributes contributing to interaction:

*responsiveness

*soothability

*curiosity

*signal intensity

*organizational ability

Adapted from Seligman, 1987

SLP

INFANT-CAREGIVER

RECIPROCAL INTERACTION

Specific adult attributes contributing to interaction:

*Playfulness

*Sensitivity

*Encouragement

*Contingent pacing

Adapted from Seligman, 1987

EARLY INFANT COMMUNICATION

Infants Use Their:

Gaze

Head Position

Body Position

In Order To:

Initiate

Maintain

Avoid

Terminate

* Marci Laurel, Training Unit, UAP/UNM

References:

Greenspan & Greenspan, 1985
Piaget, 1952
Schiefulbusch, 1980

Age in Months	Emotional	Cognitive	Language
0 - 2	Regulation and Interest in World	Reflexive (0-1)	Preintentional (0-8)
2 - 4	Falling in Love	Primary Circular Reactions (1-4)	
4 - 8	Purposeful Communication	Secondary Circular Reactions (4-8)	
		Coordination of Secondary Schemas (8-12)	Intentional (8-12)
10 - 18	Emerging Complex Sense of Self	Tertiary Circular Reactions (12-18)	First Performatives and Words (12-18)
18 - 20	Emotional Ideas/Mental Representation		
		Invention of New Schemas Through Mental Combination (18-24)	Representational Thought (18-24)
20+	Organization of Ideas		

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POTENTIAL MOTOR INFLUENCES ON EARLY COMMUNICATION

Motor Deficit	Potential Communication Deficit
Abnormal Muscle Tone	visual attention head orientation joint attention vocalization functional object use imitation respiratory support for vocalization and nonverbal communication
Lack or Decreased Locomotion	limited social/cognitive experiences limited interaction with variety of objects
Abnormal Oral-Motor/Feeding	vocalization vocal turn taking pairing vocalizations and gestures facial expression

Laurel, 1992
Adapted from Chris Marvin, 1986

Development of Goal Directed Behaviors

Level	Interaction Type	Goal	Description of Behaviors	Examples
I	Attent'_ . Interactions	No goal awareness	Attends to and discriminates between stimuli; diffuse fuss or movement to express emotion	Tracks objects moving in and out field of vision; orients to sound; smiles at familiar face
II	Contingency Interactions	Awareness of goal	Undifferentiated forms of behavior to initiate or continue a stimulus; manipulates physical properties of object or vocalizes toward person or object	Swipes a mobile; reaches for object, picks it up, looks at it, and mouths it; vocalizes to get attention; anticipates events such as feeding when sees bottle or breast by showing excitement
III	Differentiated Interactions	Simple plan designed to achieve a goal	Modifies and adjusts behavior to achieve goal; adapts to environmental demands and social expectations; uses motoric or vocal acts directed toward person	Raises arms to be picked up; shows and gives objects to others; pulls string to get toy; follows adult's visual line of regard to locate object; operates different buttons or knobs on busy box; anticipates social games, e.g., brings hands together for pat-a-cake; looks between adult and desired object
IV	Encoded Interactions	Coordinated plan designed to achieve a goal	Uses conventionalized forms of behavior that are context bound and depend on concrete referents to evoke behaviors; uses combination of motoric and vocal acts or uses intermediary object to gain interaction	Points to desired object; says words for objects he sees on wants in the environment; climbs on chair to get something out of reach; brings an object to caregiver as a way of getting attention
V	Symbolic Interactions	Alternative plans designed to achieve a goal	Uses conventionalized forms of behavior (language, pretend, sign, drawing) to refer to previous and future occurrences; modifies vocal signal or uses alternative strategy after unsuccessful attempt to achieve the goal	Uses words to label or request, e.g., What's that? gimme cookie; pretends to drink from empty cup and eat from empty plate; repeats request louder if not attended to on first try
VI	Metapragmatic Interactions	Mental awareness of plan to achieve goal	Plans out ahead of time strategies to use to achieve goal; reflects on success or lack of success	Child can verbalize plan: *Mom might give it to you if you ask real nice; I'll save my allowance till I have enough for the game*

In:

Westby, C.E. (in press). Socio-communicative bases of language development. In W.O. Haynes & B.B. Shulman (Eds.), Communication Development: Foundations, Processes and Clinical Applications. Englewood Cliff, NJ: Prentice-Hall.

SUMMARY OF SYMBOLIC PLAY DEVELOPMENT

AGE	PROPS	THEMES	ORGANIZATION	ROLES	LANGUAGE USE IN PLAY
by 18 months	uses one realistic object at a time	familiar everyday activities in which child is active participant (e.g., eating, sleeping)	short, isolated pretend actions	autosymbolic pretend, (e.g., child feeds self pretend food	language used to get and maintain toys and seek assistance operating toys (e.g., "baby," "mine," "help")
by 22 months	uses two realistic objects at a time	familiar everyday activities that caregivers do (e.g., cooking, reading)	combines two related toys or performs actions on two people (e.g., uses spoon to eat from plate; feeds mother, then doll)	child acts on dolls and others (e.g., feeds doll or caregiver)	occasional comment on toy or action
by 24 months	uses several realistic objects		multischeme combinations of steps (e.g., put doll in tub, apply soap, take doll out and dry)		talks to doll briefly; describes some of the doll's actions (e.g., "baby sleeping")
by 30 months		common but less frequently experienced or especially traumatic experiences (e.g., shopping, doctor)		emerging limited doll actions (e.g., doll cries)	talks to doll and commenting on doll's actions increase in frequency
by 3 years		observed, but not personally experienced activities (e.g, police, firefighter)	sequences of multischeme events (e.g., prepare food, set table, eat food, clear table, wash dishes)	child talks to doll in response to doll's actions (e.g., "don't cry now," "I'll get you a cookie."); brief complementary role play with peers (e.g., mother and child; doctor and patient)	children may comment on what they have just completed or what they will do next (e.g., "Dolly ate the cake." "I'm gonna wash dishes.")
by 3 1/2 years	miniature props, small figures, and object substitutions			attributes emotions and desires to dolls; reciprocal role taking with dolls (child treats doll as partner -- talks for doll and as caregiver)	children use dialogue for dolls and metalinguistic markers (e.g., "he said"); refer to emotions
by 4 years	imaginary props (language and gesture help set the scene)	familiar fantasy themes (e.g., Batman, Wonder Woman, Cinderella, etc.)	planned play events (e.g., child decides to play a birthday party and gathers necessary props and assigns roles)	child or doll has multiple roles (mother, wife, doctor; firefighter, husband, father); child can handle two or more dolls in complementary rolls (dolls are doctor and patient); attributes thoughts and plans to doll	uses language to plan and narrate the story line
by 6 years	language and gesture can carry the play without props	create novel fantasy characters and plots	multiple planned sequences (plans for self and other players)	more than one role per doll (doll is mother, wife, doctor)	elaboration of planning and narrative story line

From. Patterson, J. & Westby, C. (in press). The development of play. In Shulman, W. Haynes & B. Shulman (Eds.). Communicative Development: Foundations, Processes, and Clinical Application. Englewood Cliffs, NJ: Prentice-Hall.

GENERIC SKILLS ASSESSMENT INVENTORY

CONTENT SUMMARY

Approx. ase	Thing Skills		People Skills		Available Learning Strategies
LEVEL	OBJECT RELATIONSHIPS	REPRESENTATION	DYADIC INTERACTION	EXPRESSIVE Communication	Comprehension & Imitation
I 0-4	A. Orients B. Attends C. Tracks		A. Tolerates Proximity B. Returns Gaze	A. Reactive Communicative behavior B. Communicative Functions 1. Pleasure 2. Displeasure 3. Other	A. Responds to Intonation
II 4-8	A. Alternates attention B. Reaches & captures C. Captures & Manipulates	A. Locates object to auditory cue B. Locates visibly hidden objects	A. Attends to Speaker B. Releases/Accepts object C. Playful Interaction	A. Proactive Communicative Behavior B. Communicative Functions 1. Request 2. Protest 3. Interest 4. Attention to self 5. Other	A. Anticipates Routine Event B. Continue motion movement C. Responds to Ritualized Utterances
III 8-18	A. Differential Action Schemas B. Combinatorial Action on Objects C. Direct means to ends D. Indirect Means to ends E. Primitive tool use F. Functional Use	A. Locates invisibly Hidden Objects B. Identify Match: Objects	A. Evokes Attention for communication B. Maintains Joint focus C. Waits turn D. Fills turn E. Establish Joint Focus	A. Primitive Intentional Communication B. Communicative Intents 1. Request 2. Protest 3. Attention to Self 4. Attention to Referent 5. Other	A. Responds to Conventional Gestures B. Imitates Action on Objects C. Responds to Action Gestures D. Imitates Motion E. Comprehends label of Present Object

From The PREP Curriculum by Lee McLean, Ph.D., Sara H. Sack, Ph.D., & Barbara Solomonson, MA, CCC; Patton's Regional Early Intervention Program, 1992.

Approx. ase LEVEL	Thing Skills		People Skills		Available Learning Strategies
	OBJECT RELATIONSHIPS	REPRESENTATION	DYADIC INTERACTION	EXPRESSIVE Communication	Comprehension & Imitation
IV 18 +	A. Conventional Tool use B. Complex Combinatorial action	A, Photo-to-Object Match B. Action-to-Object match C. Perceptual Class concepts D. Peer Interaction	A. Establishes Joint Referent B. Answer Simple Questions C. Maintain Joint Referent/ Topic D. Peer Interaction	A. Conventional Intentional Communication B. Communicative Intents 1. Request 2. Protest 3. Attention 4. Attention to referent 5. Greeting 6. Answer 7. Information 8. Other C. Conventional Signals Used C. Conventional Signals Used 1. Point 2. Give 3. Show 4. Request 5. Wave 6. Head Nod 7. Vocalization 8. Other C. Conventional Signals Used D. Emerging Linguistic Communication E. Linguistic Performatives 1. Request 2. Protest 3. Attention to self 4. Attention to Referent 5. Great 6.. Answer 7. Information 8. Other	A. Comprehends Labels of absent Object/Actions B. Comprehend Two or more terms in an Utterance

From The PREP Curriculum by Lee McLean, Ph.D., Sara H. Sack, Ph.D., & Barbara Solomonson, MA, CCC; Parents Regional Early Intervention Program, 1992.

FUNCTIONAL SIGNALS	INTENTIONAL CONVENTIONAL -All produced with eye contact
Request - gaze alternation between object and person - reach toward object (palm down) with eye contact - establish proximity - pull person to item desired - put person's hand on item desired - whole hand point	Request - one finger point - open palm request - one finger or whole hand beckon
Protest/rejection - place person's hand away from self with eye contact - place object away from self with eye contact	Protest/rejection - one hand up ("stop") - one/two hand(s) up with palm(s) out and head averted ("no") - hand/arm sweep away from body with palm down ("go away")
Attention to self - differentiated vocalizations with eye contact - established proximity - tap hand(s) on surface/stamp foot on floor with eye contact - tug on person's clothes with eye contact	Attention to self - one finger or whole hand beckon - tap person's hand, arm, shoulder, etc. - point to/tap self ("me")
Attention to object or action - whole hand point - gaze alternation between object and person - gaze directing (looks intently at object or action with occasional glance at person) - pull person to object or action - put person's hand on object	Attention to object or action - one finger point - extend object (give) - hold object up (show) - tap seat of chair or place to sit
	Greeting/Parting - wave hand
	Answer - one finger point - nod/shake head ("yes/no") - shrug shoulders ("don't know")
	Other - finger to lips ("be quiet") - hands over ears ("loud") - shoulders shrugged, elbows bent, palms up and fingers spread (question)

From The PREP Curriculum by Lee McLean, Ph.D., Sara H. Sack, Ph.D., & Barbara Solomonson, MA, CCC; Paron's Regional Early Intervention Program, 1992.

[NOTE: This list is not exhaustive or in developmental order.]