

FIRST WORDS Project:

How Early Can We Identify Young Children with Communication Disorders?

Amy M. Wetherby and Howard Goldstein

**Seminar Presented at the
Annual Convention of the American
Speech-Language-Hearing Association**

*San Francisco, California
November 18, 1999*

OUTLINE OF PRESENTATION

1. The Problem: Need for Earlier Identification
2. The Challenge: Using Prelinguistic Predictors
3. Findings on Our First 1,000 Children
4. How Early Can We Identify Children with Communication Disorders?
5. Early Intervention Model for Very Young Children
6. Directions for Future Research



FIRST WORDS Project

Department of Communication Disorders Florida State University Tallahassee, FL 32306-1200
<http://firstwords.fsu.edu> (850) 644-8462

Funding for the FIRST WORDS Project has been provided by the U.S. Department of Education Model Demonstration Grant (H324M980173) and the Jessie Ball duPont Fund.

PRELINGUISTIC PREDICTORS OF PERSISTING COMMUNICATION AND LANGUAGE DISORDERS IN YOUNG CHILDREN

Emotion and Use of Eye Gaze

- ⇒ limited ability to share attention and affective states with eye gaze and facial expression
- ⇒ limited use of gaze shifts between people and objects
- ⇒ delay in following another person's point and eye gaze

Use of Communication

- ⇒ low rate of communicating with gestures and/or vocalizations
- ⇒ limited range of communicative functions, particularly lacking in the joint attention function

Use of Gestures

- ⇒ limited repertoire of conventional gestures (e.g., giving, showing, reaching, pointing)
- ⇒ limited use of symbolic gestures (e.g., waving, nodding head, depictive gestures)
- ⇒ reliance on gestures and a limited use of vocalizations to communicate

Use of Sounds

- ⇒ limited consonant inventory (stops, nasals, and glides emerge earliest)
- ⇒ immature syllable structure (reduplicated CV combinations emerge earlier than consonant contrasts)

Understanding of Words

- ⇒ delay in comprehension of words or sentences

Use of Words

- ⇒ delay in production of words or sentences

Use of Objects

- ⇒ delay in the spontaneous use or sequencing of action schemes in symbolic play
- ⇒ limited ability to imitate actions on objects

From Kasari, Sigman, Mundy, & Yirmiya, 1990; Mundy, Sigman, & Kasari, 1990; Paul, 1991; Paul, Looney, & Dahm, 1991; Rescorla & Goosens, 1992; Snyder, 1978; Terrell & Schwartz, 1988; Thal & Tobias, 1992; Thal, Tobias, & Morrison, 1991; Wetherby & Prizant, 1993; Wetherby & Prizant, 1996; Wetherby & Prutting, 1984; Wetherby, Yonclas, & Bryan, 1989; Wetherby, Prizant, & Hutchinson, 1998)

CSBS DEVELOPMENTAL PROFILE

Evaluation Procedures

(Wetherby & Prizant, 1998)

- (1) **Infant/Toddler Checklist for Communication and Language Development:** Gather information from family members through one-page checklist to determine whether a referral for an evaluation is needed.
- (2) **Caregiver Questionnaire:** Gather information from family members through four-page questionnaire.
- (3) **Behavior Sample:** Caregiver is present and professional coaches caregiver on procedures to evaluate child.
 - Warm-up
 - Communicative Temptations
 - ⇒ Activate a wind-up toy, let it deactivate, and hand it to the child.
 - ⇒ Blow up a balloon and slowly deflate it; then hand the deflated balloon to the child and wait.
 - ⇒ Open a jar of bubbles, blow bubbles, and then close the jar tightly and give the closed jar to the child.
 - ⇒ Place a desired food item or toy in a jar that the child cannot open while the child is watching; then put the jar in front of the child and wait.
 - ⇒ Put interesting toys in a bag, and shake the bag to attract the child's attention. Place the bag in front of the child and encourage the child to take one of the toys out of the bag.
 - Sharing Books
 - Symbolic Play Probes
 - Language Comprehension Probes
 - Constructive Play Probes
- (4) **Caregiver Perception Form:** Caregiver rates how typical child's behavior is during child evaluation
 - Alertness
 - Emotional reaction
 - Level of interest and attention
 - Comfort level
 - Level of activity
 - Overall level of communication
 - Organization and focus of play

FIRST WORDS Project Menu of Service Options for At-Risk Children and Families

Preventative Family Education/Support Services:

- parent education group meetings in the community
- infant/toddler peer play groups
- caregiver education modules disseminated to families and service providers
- parent support and networking groups
- resource and referral database

Intensive, Individualized Early Intervention

- individualized intervention through a family-guided assessment of the child's communication and the communicative environment
- parents are essential partners in the identification of specific concerns, intervention planning, and evaluation of outcomes

Infant/Toddler Checklist for Communication and Language Development

Amy M. Wetherby & Barry M. Prizant © 1998 by Applied Symbolix. All rights reserved.

Child's Name: _____ Date of Birth: _____
Filled out by: _____ Date filled out: _____

Instructions for Caregivers: This checklist is designed to identify different aspects of development in infants and toddlers. Many behaviors that develop before children talk may indicate whether or not a child will have difficulty learning to talk. This checklist should be completed by a caregiver when the child is between **6 and 24 months of age** to determine whether a referral for an evaluation is needed. The caregiver may be either a parent or other person who nurtures the child daily. Please check all the choices that best describe your child's behavior. If you are not sure, please choose the closest response based on your experience. **Children at your child's age are not necessarily expected to be able to do all the behaviors listed.**

Emotion and Use of Eye Gaze

1. Do you know when your child is happy and when your child is upset? Not Yet Sometimes Often
2. When your child plays with toys, does he/she look at you to see if you are watching? Not Yet Sometimes Often
3. Does your child smile or laugh while looking at you? Not Yet Sometimes Often
4. When you look at and point to a toy across the room, does your child look at it? Not Yet Sometimes Often

Use of Communication

5. Does your child let you know that he/she needs help or wants an object out of reach? Not Yet Sometimes Often
6. When you are not paying attention to your child, does he/she try to get your attention? Not Yet Sometimes Often
7. Does your child do things just to get you to laugh? Not Yet Sometimes Often
8. Does your child try to get you to notice interesting objects—just to get you to look at the objects, not to get you to do anything with them? Not Yet Sometimes Often

Use of Gestures

9. Does your child pick up objects and give them to you? Not Yet Sometimes Often
10. Does your child show objects to you without giving you the object? Not Yet Sometimes Often
11. Does your child wave to greet people? Not Yet Sometimes Often
12. Does your child point to objects? Not Yet Sometimes Often
13. Does your child nod his/her head to indicate yes? Not Yet Sometimes Often

Use of Sounds

14. Does your child use sounds or words to get attention or help? Not Yet Sometimes Often
15. Does your child string sounds together, such as uh oh, mama, gaga, bye bye, bada? Not Yet Sometimes Often
16. About how many of the following consonant sounds does your child use:
ma, na, ba, da, ga, wa, la, ya, sa, sha? None 1-2 3-4 5-8 over 8

Understanding of Words

17. When you call your child's name, does he/she respond by looking or turning toward you? Not Yet Sometimes Often
18. About how many different words or phrases does your child understand without gestures? For example, if you say "where's your tummy", "where's daddy", "give me ball", or "come here", without showing or pointing, your child will respond appropriately. None 1-3 4-10 11-30 over 30

Use of Words

19. About how many different words does your child use meaningfully that you recognize (such as baba for bottle; gaggie for doggie)? None 1-3 4-10 11-30 over 30
20. Does your child put two words together (such as more cookie; bye-bye daddy)? Not Yet Sometimes Often

Use of Objects

21. Does your child show interest in playing with a variety of objects? Not Yet Sometimes Often
22. About how many of the following objects does your child use appropriately:
cup, bottle, bowl, spoon, comb or brush, toothbrush, washcloth, ball, toy vehicle, toy telephone? None 1-2 3-4 5-8 over 8
23. About how many blocks (or rings) does your child stack? **Stacks:** None 2 blocks 3-4 blocks 5 or more blocks
24. Does your child pretend to play with toys (such as feed a stuffed animal, put a doll to sleep, put an animal figure in a vehicle). Not Yet Sometimes Often

Evaluation Parameters Measured with the *CSBS Developmental Profile* (Wetherby & Prizant, 1998)

EMOTION AND EYE GAZE

1. **Gaze Shifts**- alternating eye gaze between a person and an object and back (i.e., person-object-person or object-person-object).
2. **Shared Positive Affect**- clear facial expression of pleasure or excitement directed toward other with eye gaze.
3. **Gaze/Point Following**- responding to another's point/gaze by turning head or following with eye gaze

COMMUNICATION

4. **Rate of Communicating** - frequency of communicative acts displayed per sampling opportunity.
5. **Behavioral Regulation**- use of communication to regulate behavior of another to obtain or restrict an environmental goal.
6. **Social Interaction**- use of communication to attract attention to self.
7. **Joint Attention**- use of communication to direct another's attention to an object or event.

USE OF GESTURES

8. **Conventional Gestures**- repertoire of gestural communication with shared or conventional meaning, including giving, showing, pushing/pulling away, reaching, pointing, waving, nodding head, and shaking head.
9. **Distal Gestures**- gestural communicative acts in which the child's hand does not touch a person or object (e.g., open-hand reaching, pointing at a distance, waving).

USE OF SOUNDS

10. **Syllables with Consonants**- vocal communicative acts that are transcribable vowel plus consonant combinations.
11. **Inventory of Consonants**- the variety of different consonants produced in communicative acts.

USE OF WORDS

12. **Words**- use of words (i.e., spoken or signed) in communicative acts; a word or word approximation must be used to refer to a specific object, action or attribute and only that word class.
13. **Inventory of Words**- sample of different words used (i.e., spoken or signed) in communicative acts.
14. **Word Combinations**- use of multiword combinations in communicative acts.
15. **Inventory of Word Combinations**- sample of different word combinations used in communicative acts.

UNDERSTANDING OF WORDS

16. **Language Comprehension**- comprehension of object names, person names, and body parts.

USE OF OBJECTS

17. **Inventory of Action Schemes**- the variety of different action schemes used with objects in symbolic play.
18. **Action Schemes Toward Other**- the use of action schemes with objects toward other agents in pretend play.
19. **Action Schemes in Sequence**- the use of action schemes with objects in sequence of different action schemes in pretend play.
20. **Constructive Play**- the use of objects in combination to construct a product; that is, to stack a tower of blocks.

References on Communication Evaluation with Young Children

- Baranek, G. (1999). Autism during infancy: A retrospective video analysis of sensory-motor and social behaviors at 9-12 months of age. Journal of Autism and Developmental Disorders, 29, 213-224.
- Baron-Cohen, S., Allen, J., & Gillberg, C. (1992). Can autism be detected at 18 months? The needle, the haystack, and the CHAT. British Journal of Psychiatry, 161, 839-843.
- Baron-Cohen, S., Cox, A., Baird, G., Swettenham, J., Nightingale, N., Morgan, K., Drew, A., & Charman, T. (1996). Psychological markers in the detection of autism in infancy in a large population. British Journal of Psychiatry, 168, 158-163.
- Crais, B. (1993). Families and professionals as collaborators in assessment. Topics in Language Disorders, 14(1), 29-40.
- Crais, E. (1995). Expanding the repertoire of tools and techniques for assessing the communication skills of infants and toddlers. American Journal of Speech-Language Pathology, 4, 47-59.
- Dale, P., Bates, E., Reznick, J., & Morisset, C. (1989). The validity of a parent report instrument of child language at 20 months. Journal of Child Language, 16, 239-249.
- Dunst, C., Lowe, E., & Bartholomew, P. (1990). Contingent social responsiveness, family ecology, and infant communicative competence. National Student Speech Language Hearing Association, 17, 39-49.
- Fenson, L., Dale, P. S., Reznick, J. S., Bates, E., Thal, D., & Pethick, S. J. (1994). Variability in early communicative development. Monographs of the Society for Research in Child Development, 59, 1-173.
- Glascoc, F. (1991). Developmental screening: Rationale, methods, and application. Infants and Young Children, 4, 1-10.
- Greenspan, S.I., & Wieder, S. (1997). Developmental patterns and outcomes in infants and children with disorders in relating and communicating: A chart review of 200 cases of children with autistic spectrum diagnoses. Journal of Developmental and Learning Disorders, 1, 87-141.
- Hart, B. & Risley, T. (1992). American parenting of language-learning children: Persisting differences in family-child interactions observed in natural home environments. Developmental Psychology, 28, 1096-1105.
- Hutchinson, T. (1996). What to look for in the technical manual: Twenty questions for users. LSHSS, 27, 102-108.
- Kasari, C., Sigman, M., Mundy, P., & Yirmiya, N. (1990). Affective sharing in the context of joint attention. Journal of Autism and Developmental Disorders, 20, 87-100.
- Kaufmann, R., & McGonigel, M. (1991). Identifying family concerns, priorities, and resources. In M. McGonigel, Kaufmann, R. & Johnson, B. (Eds.), Guidelines and recommended practices for the individualized family service plan, Second edition (pages 47-55). Bethesda, Maryland: Association for the Care of Children's Health.
- Kelly, D. (1998). A clinical synthesis of the "late talker" literature: Implications for service delivery. Language Speech, and Hearing Services in Schools, 29, 76-84.
- Klinger, L. & Dawson, G. (1992). Facilitating early social and communicative development in children with autism. In S. Warren & J. Reichle (ED.), Causes and effects in communication and language intervention (pp. 157-186). Baltimore, MD: Brookes.
- Lord, C. (1995). Follow-up of two year-olds referred for possible autism. Journal of Child Psychology and Psychiatry, 36, 1365-1382.
- McArthur, D., & Adamson, L.B. (1996). Joint attention in preverbal children: Autism and developmental language disorders. Journal of Autism and Developmental Disorders, 26, 481-496.
- McCathren, R. B., Warren, S. F., & Yoder, P. J. (1996). Prelinguistic predictors of later language development. In K. Cole, P. Dale, & D. Thal (Eds.), Assessment of communication and language (pp. 57-75). Baltimore, MD: Paul H. Brookes.
- McCauley, R. (1996). Familiar strangers: Criterion-referenced measures in communication disorders. Language, Speech and Hearing Services in Schools, 27, 102-108.
- Meisels, S., & Fenichel, E. (Eds.) (1996) New Visions for Developmental Assessment, Arlington, VA: ZERO TO THREE/ National Center for Clinical Infant Programs.
- Mundy, P. & Gomes, A. (1998). Individual differences in joint attention skill development in the second year. Infant Behavior and Development, 21, 469-482.
- Mundy, P., Sigman, M., & Kasari, C. (1990). A longitudinal study of joint attention and language development in autistic children. Journal of Autism and Developmental Disorders, 20, 115-128.
- Olswang, L., Rodriguez, B., Timler, G. (1998). Recommending intervention for toddlers with specific language learning difficulties: We may not have all the answers, but we know a lot. American Journal of Speech-Language Pathology, 7, 23-32.
- Osterling, J., & Dawson, G. (1994). Early recognition of children with autism: A study of first birthday home videotapes. Journal of Autism and Developmental Disorders, 24, 247-257.
- Paul, R. (1991). Profiles of toddlers with slow expressive language development. Topics in Language Disorders, 11, 1-13.
- Paul, R., Looney, S., & Dahm, P. (1991). Communication and socialization skills at ages 2 and 3 in "late-talking" young children. Journal of Speech and Hearing Research, 34, 858-865.
- Prizant, B. & Wetherby, A. (1990). Assessing the communication of infants & toddlers: Integrating a socioemotional perspective. Zero to Three, 11, 1-12.
- Rescorla, L. & Goosens, M. (1992). Symbolic play development in toddlers with expressive specific language impairment. Journal of Speech and Hearing Research, 35, 1290-1302.
- Rossetti, L. (1990). Infant-toddler assessment: An interdisciplinary approach. Boston: Little, Brown, & Company.
- Snyder, L. (1978). Communicative and cognitive abilities and disabilities in the sensorimotor period. Merrill-Palmer Quarterly, 24, 161-180.
- Squires, J., Nickel, R., & Bricker, D. (1990). Use of parent-completed developmental questionnaires for child-find and screening. Infants and Young Children, 3, 46-57.
- Stone, W., Lee, E., Ashford, L. Brissie, J., Hepburn, S., Coonrod, E., & Weiss, B. (in press). Can autism be diagnosed accurately in children under three years? Journal of Child Psychology and Psychiatry.
- Stone, W., Ousley, O., Yoder, P., Hogan, K. & Hepburn, S. (1997). Nonverbal communication in 2- and 3-year old children with autism. Journal of Autism and Dev. Dis., 27, 677-696.
- Sturner, R., Layton, T., Evans, A., Heller, J., Funk, S. & Machon, M. (1994). Preschool speech and language screening: A review of currently available tests. American Journal of Speech-Language Pathology, 3 (1), 25-36.
- Terrell, B.Y. & Schwartz, R.G. (1988). Object transformations in the play of language-impaired children. Journal of Speech and Hearing Disorders, 53, 459-466.
- Thal, D. & Tobias, S. (1992). Communicative gestures in children with delayed onset of oral expressive vocabulary. Journal of Speech and Hearing Research, 35, 1281-1289.
- Thal, D., Tobias, S. & Morrison, D. (1991). Language and gesture in late talkers: A 1-year follow-up. Journal of Speech and Hearing Research, 34, 604-612.
- Van Kleeck, A. (1994). Potential cultural bias in training parents as conversational partners with their children who have delays in language development. American Journal of Speech-Language Pathology, 3 (1), 67-78.
- Westby, C.E. (1990). Ethnographic interviewing: Asking the right questions, to the right people, in the right ways. Journal of Childhood Communication Disorders, 13, 101-111.
- Wetherby, A. & Prizant, B. (1993a). Communication and symbolic behavior scales- Normed edition. Chicago, IL: Applied Symbolix. (800) 676-7551
- Wetherby, A. & Prizant, B. (1993b). Profiling communication and symbolic abilities in young children. Journal of Childhood Communication Disorders, 15, 23-32.
- Wetherby, A., & Prizant, B. (1996). Toward earlier identification of communication and language problems in infants and young children. In S. Meisels, & E. Fenichel (Eds.), New Visions for Developmental Assessment (pages 289-312), Arlington, VA: ZERO TO THREE/ National Center for Clinical Infant Programs.
- Wetherby, A. & Prizant, B. (1998). Communication and Symbolic Behavior Scales Developmental Profile- Research Edition. Chicago, IL: Applied Symbolix.
- Wetherby, A. & Prizant, B. (Eds.) (in press). Autism spectrum disorders: A transactional developmental perspective. Baltimore, MD: Paul H. Brookes.
- Wetherby, A., Prizant, B. & Hutchinson, T. (1998). Communicative, social/affective, and symbolic profiles of young children with autism and pervasive developmental disorders. American Journal of Speech-Language Pathology, 7, 79-91.