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## THE LANGUAGE LEARNING CONTEXT : DEVELOPMENT AND DISABILITIES

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### INTRODUCTION

Questions about the means of knowledge acquisition in general have long been of interest. Fundamental philosophical questions addressing how one comes to know things and the resultant nature and organization of mental life, have spawned a number of learning theories incorporating elements acknowledging the importance of the social context of learning. Research aimed at understanding the precursors of developmental disabilities has recently recognized to a greater extent, the importance of the role and nature of the social context in abnormal development, particularly in the area of child language acquisition.

The following represents a literature review which may help form a context for understanding a large body of research in the United States reflecting the importance of the social conditions out of which uniquely human psychological functioning, specifically language, evolves. Understanding those social conditions in light of those in the Japanese culture can help contribute to a greater understanding of cultural constraints on language acquisition and on developmental disabilities related to language development.

In the field of child language study, there is a large body of research which has focused on mother-child verbal interaction in order to better understand the early language learning social context. Contributors to this body span a number of disciplines including linguistics, psychology, sociology, education, and subdivisions/combinations thereof, such that the methodology and application of findings are predictably varied. Admitting some simplification, there are two clusters of research foci under the larger category of language aimed at understanding early verbal interaction.

The first group of individuals interested in verbal interaction are linguists whose focus of study is discourse analysis (Searle, 1969 ; Austin, 1962 ; Sinclair and Coulthard, 1975). While linguists have always been concerned with formulating rules to describe and predict the occurrence of language, it is only recently that the object of their scrutiny has been discourse. By *discourse* is meant language as it occurs in its linguistic context, that is, in related conversation. Since the conversation/communication aspects of language are emphasized, the function or use of an utterance in conveying meaning is of primary interest. Hence the relevance of the work of linguists to the context of early child language learning is in the mutual emphasis on how language is used to convey meaning. What is discrepant is the motivation for this shared focus : in

the former case, to describe the probability of occurrence of various uses of language at different point in discourse or in different kinds of discourse; and in the latter, to explore the use of language to mediate early mother-child social interaction.

A second group of individuals interested in verbal interaction are those whose focus is developmental analysis (Newport, 1976; Phillips, 1973; Broen, 1972; Snow, 1979; Cross, 1978b). The attempt is to formulate a theory of language development based on interaction, usually between adults and children. In the literature one can identify a definite trend in the changing definition of language development co-occurring with a shift within linguistics and child language study in general, from emphasis on syntax or the form of language, to pragmatics or the function of language in communication.

Developmental analysis sees adult-child communication as the impetus behind language acquisition, and focuses on the functions or uses of language in context.

#### LITERATURE REVIEW: VERBAL INTERACTION AMONG PRESCHOOL CHILDREN AND MOTHERS IN THE UNITED STATES

The following studies share a common emphasis on the functions of language used in context and a recognition of the mutual influence of individuals on linguistic interaction.

#### NORMAL CHILDREN

In describing the use of language in linguistic interaction between normal children and adults, several variables emerge in the literature which reflect the mutual influence of individuals on each other and which define the nature of the exchange.

##### *General Characteristics of Verbal Interaction*

In general, preschool children and adults sharing linguistic communication are part of a communicative complex which is largely directed by the mother. The mother is in control of maneuvering the speaker/listener roles and typically adjusts her language stimulation to maximize the probability of the child's emission of a response (Ninio and Bruner, 1978). One means by which this is accomplished is by various turn-taking procedures; adults effectively alternate speaker turns to get children engaged in sustained discourse (Mishler, 1975). Kaye and Charney, studying conversational asymmetry between mothers and their three year olds, found that mothers use what is termed a turnabout (a turn that responds to the other person and expects a response) to secure a response from the child and sustain the discourse (1981). Similar to the turnabout, Garvey (1977) discusses the contingent query, an utterance characteristic of maternal speech, used as a means of discourse regulation and maintenance. Consonant with the importance of the mother's use of conversational devices to invoke the child's participation, Scherer (1982) concurs that preschool children are more likely to talk following a maternal utterance, questions being the most effective. As part of insuring the child's linguistic responsiveness, such turn-taking patterns result in an increase in the frequency of speaker switching accompanied by a decrease in the length of the mother's conversational turn as the child moves through the preschool years (Cross,

1978b; Snow, 1977a). Further, observing mothers and three to four year old children in a free play format, Martlew (1980) found an overall increase in the total frequency of mother and child utterances observed over the course of one year. Apparently the child becomes more inclined to encode verbally facts of his experience, which is fostered by the mother's use of language in conversational interaction (Moerk, 1974).

In interpreting the general characteristics of the linguistic interaction between mothers and preschool children, Wells (1975) has suggested that the proportion of speech addressed to children in joint activities is significantly related to the child's rate of language development. Further, Evans found positive correlations between mothers' mean level of verbal responsiveness to three year old children, and the child's mean length of utterance, syntax complexity, and oral comprehension (1977). In contrast, Snow (1977a) and others, noting the presence of linguistic input to children exceeding their grammatical competence, conclude that characteristics of mother-child verbal interaction are correlated with the child's development of attributes enabling him to interactively participate in conversation (Shatz and Gelman, 1977; Cross, 1979). Predictably, the proportion of children's speech addressed to adults is similarly related to the child's language development: Cross found mothers of linguistically advanced preschoolers used conversational styles permitting the child to take his turn in the conversation more often than mothers of normal children (1978b).

Directives or commands are utterance types which do not encourage the verbal participation of those to whom they are directed. That is, to the extent that the mother is using language during interaction to control and direct the child's behavior, she is less apt to be engaging in behaviors which elicit the child's conversational participation. McDonald notes that there is a tendency for directives to be associated with rapid topic change and low topic maintenance, and that the use of linguistic attention devices is negatively related to the mother's use of questions (McDonald and Pien, 1982). Direct references to the child's activity and the occurrence of attentionals decrease with the child's growing linguistic ability and chronological age (Cross, 1977; Belinger, 1980) such that increasing emphasis is on the joint activity of the child and adult, as in story reading (Ellis and Wells, 1980).

In summary, a general function of language in the verbal interaction of mothers in the U. S. and preschool children is to evoke the linguistic participation of the child. Various turn-taking devices are employed to this end which result in increased frequency of speaker switching and total mother-child utterances, and decreased length of the mother's conversational turn over the preschool years. These characteristics have been interpreted as a response to the child's grammatic competence and to the child's increasing ability to act as a conversational partner.

### *Contingent Language*

A dominant variable reflecting the child's ability to participate in linguistic interaction and co-occurring with his overall increasing language development, is contingent language. Comparing different linguistic characteristics observed in mother-child interaction, Ervin-Tripp and Miller (1977), Snow (1977), and Cross (1977) concur that the per cent of maternal utterances semantically related (i. e. contingent) to the preceding

child's utterance is the best predictor of the child's language ability, and impacts on the adult's use of language to convey meaning and maintain comprehensibility and participation in the conversation. Studying interaction between mothers and children learning language, Van der Geest (1977) reported the tendency of spontaneous (i. e. noncontingent) mother utterances to be less advanced over the level of the child's utterances in both semantic and syntactic realization, than non-spontaneous mother utterances. Parallel with the increasing contingency of the mother's speech, the child is also increasingly able to produce language topically related to preceding utterances. By the age of three, children and their mothers are able to share the same conversational topic and sustain it over an increasing number of turns (Bloom, Rocissano, and Hood, 1976). Just as the occurrence of contingency in the mother's speech affects the complexity of the child's speech, so the converse is true. A maternal sentence not reacted to by the child is much less complex semantically than a maternal sentence to which he does react (Van der Geest, 1977). Thus, the contingent utterances of the child are closer than non-contingent ones to the semantic and grammatic level of the mother's speech.

### *Questions*

A number of individuals have established the preponderance of questions in adults' speech to children (Snow, 1977; Savic, 1975; Remick, 1976). Questions are an effective means used by the mother both to maintain control over the conversation (Garvey, 1977) and foster contingent speech. Referred to as chaining and arching respectively, Mishler suggests adults often maintain control over conversation with successive questions and, when responding to a child's question, regain control by responding in kind with a query (Mishler, 1975). Further, as questions are a chief means by which contingent language is encouraged, Moerk found that the probability of a response is greater following a question, especially a *wh* question, than for other utterance types (1974). Sherer and Coggins (1982) corroborate Moerk's observations in noting the high percentage of contingent speech of preschoolers which arises on the basis of questions, and suggest the importance thereof for developing the skill of conversation.

As the child's linguistically contingent responses to questions increase, adults ask a greater number of questions (Bloom, Rocissano, and Hood, 1976), adapting the question difficulty level to the child's response success rate (Ervin-Tripp and Miller, 1977). Moerk found the question demands made by mothers of children from the ages two to five changed over time (1974). In a story reading context comparing children at ages 1; 5-1; 10, 2; 5-2; 10, and 3; 5-5; 0, mothers posed more information questions to older children in contrast to offering descriptive information to younger ones (Wheeler, 1983). Further, as children's linguistic development proceeds, there is a decline in the mothers' use of test questions to assess the knowledge of the child, and increase in information seeking questions (Holzman, 1972; James and Seebach, 1982). Heath also notes a progression in the complexity level of questions contingent on the child's linguistic ability and in the context of story reading (1982). When children begin to verbalize about the contents of books, adults initially request labels for items depicted and then extend these questions to ask about the attributes of items. After factual information

can be established, adults attempt to compare the story with events familiar to the child's experience and direct the child's attention to the affective aspects of the story.

Predictably, children's responses to adult questions increase with increasing linguistic development over the preschool years (Martlew, 1980; Moerk, 1974). Garvey found older children, ages four and five, to respond more frequently than younger children, ages three and four, to interrogatives (1975). Further, from age two to four, Tyack and Ingram (1977) noted an increase in correct answers to questions. In studying three year olds' responses to questions, Dore found 50% of *who* questions received a standard response, 27% received *no response*, and 30% of *yes/no* questions received *no response* (1977). Apparently *no response* to questions is a viable option, but an option most likely to be exercised when the linguistic demands are limited.

As with adult questions to children, children ask more questions of adults, comparing incidence from ages two to five (Moerk, 1974). These questions are increasingly employed to serve a conversational function and correlate with the child's increasing awareness of the social uses of language (James and Seebach, 1982). Thus, while young children tend to ask more open-ended questions which elicit fewer responses from the adult (Hekken and Roelofsen, 1982; Martlew, 1980), children's actual information requests increase with age, of which *who* and *what* questions are particularly useful in maintaining conversation. Adult responses to children's questions likewise increase (Martlew, 1980), though Mishler suggests that in 78% of child initiated questions, the adult responds to a question with a question (Mishler, 1975). This suggests the adult's use of questions to guide the child through self-discovery of answers to his own inquiries, rather than providing the answers for him.

#### *Repetitions, Additions, Acknowledgments*

Other types of contingent speech, that which arises on the basis of and has a meaningful relationship to preceding utterances, include repetitions, additions (extensions and comments), and acknowledgments.

Being a re-statement of a previous utterance either in essence or in fact, repetitions are an easily recognizable form of contingent speech. Adults frequently repeat child utterances possibly to reinforce the child's contribution and maintain the conversational interaction at the level defined by the child. However, as the child's linguistic and conversational ability increase, such sole repetitions decrease in occurrence and adults more commonly incorporate the child's contribution in their own addition (Moerk, 1974; Bloom, Rocissano, and Hood, 1976). Similarly, adult repetitions of their own previous utterances are associated with the child's receptive immaturity; as the child is more able to engage with the adult in conversation, adult self-repetitions which take the child's conversational turn, diminish (Cross, 1979).

As with adults, preschool children produce topic relevant responses wherein they add nothing to the previous utterance (Corsaro, 1979). Bloom, Rocissano, and Hood (1976) note that young children, age two, maintain a conversation with adults by imitating the preceding adult utterance. As they get older, children, as adults with whom they are speaking, not only re-state but also add to previous utterances in the form of extensions.

The increasing occurrence of extensions, utterances which share the topic of a previous utterance but also add to its content, are a major part of the child's linguistic development. Though adults produce more topic relevant utterances than children, throughout Brown's language stages one through five, there is an increased incidence of children's messages that share the topic of the prior utterance while adding information (Bloom, Rocissano, and Hood, 1976 ; Corsaro, 1979). Further, Cross suggests that the linguistic maturity of the child's utterance is related to the occurrence of subsequent adult semantic extensions or semantically new utterances (1979). That is, as the linguistic facility of the child increases, he is more likely to be responded to by the parent with an extension. Comparing conversation between fast versus slow language learners and their mothers, mothers of the former more frequently responded to their children with repetition/extension combinations (Cross, 1978b).

As regards the content of information added to child utterances in the context of story reading, Heath (1982) observes that mothers of young preschool children focus on descriptions of pictures. As the child develops linguistic ability, there is an increase in the mother's relating of explanations to child (Wheeler, 1983 ; Martlew, 1980). Moerk, in observing mothers and children from ages two to five, notes that interaction with younger children is more present and situation bound than with older preschoolers (1974). Several other individuals have similarly established a predictable relationship between utterances referring to non-immediate events and language measures (Cross, 1977). In the story reading context, mothers of older preschool children tend to go beyond the information in the pictures, introducing interpretive statements and associating the story with something outside itself (Wheeler, 1983). Apparently mothers redirect the focus of discussion from reference to the child to reference to the world (Snow, 1977) such that utterances become less context dependent on the book and more dependent for interpretation on the verbal context itself.

In addition to repetitions and additions to previous utterances, acknowledgments are another form of contingent speech. In general, the incidence of mother and child acknowledgments in conversation increase with the child's increasing language facility, though the overall rate of acknowledgments is greater on the part of adults than children (Martlew, 1980 ; Mishler, 1978). Supporting the relationship of the child's language ability with the occurrence of acknowledgments, Glanzer and Dodd (1975) found that explicit comprehension feedback given by the child influences the grammatic complexity of the adult's utterance. Further, Ellis and Wells (1980) found that more linguistically advanced children receive a larger number of acknowledgments to their contributions, than those developing language more slowly.

The above utterance types, repetitions, additions, and acknowledgments, may all be considered optional in that they are not preceded by an utterance to which a response is obligatory. In general, as the child develops increasing language facility, there is an increase in utterances by both the child and mother which do not require an answer (Martlew, 1980). Further, as contingency of speech increasingly characterizes the mother and child's verbal interaction, there is an increase in general responsiveness to non-obligatory utterances (Bloom, Rocissano, and Hood, 1976) which accompanies the child's increasing linguistic development.

### *Noncontingent Language*

The most extreme case of an optional utterance is a noncontingent one which represents the initiation of a new exchange between the mother and child. In general, there is a trend for the mother to encourage the child's increased initiative in the conversation, while the mother's linguistic dominance becomes less overt. In studying preschool children up to age three, Martlew (1980) found children with the highest scores on receptive and expressive language tests initiated more and elaborated more in conversation than low scoring children. Observing the same age group in a free play situation, others have similarly concluded that the child increases activity in initiating conversational exchange (Bloom, Rocissano, and Hood, 1976; Cross, 1977; Levinson, 1980) concomitant with his increasing linguistic ability. Apparently one way in which mothers encourage the child to adopt an initiating role is by frequent use of acknowledgments (Wells, Montgomery, and MacLure, 1979). Ninio and Bruner (1976) further report that mothers are more likely to respond to a turn of the child's if it constitutes an initiation of a new dialogue cycle, hence reinforcing the child's initiative.

Although most studies report the mother's responsiveness to the child's initiations instead of pursuing her own topics, such studies are typically based on observation in free play or other unstructured contexts. In contrast, Harkness and Miller (1982) observed the linguistic interaction of one child, age 3; 0-3; 9, and his mother in a story reading situation. Although the generalizability of the findings is questionable considering the single subject size, and results are reported more anecdotally than quantitatively, Harkness found that mothers tended to initiate most units of interaction centering around each page. He observed that the mother responded to child initiations with either repetitions or evaluative comments after which she reinitiated in directing the conversation by question or comment. Repeated story readings from age 3; 0 to 3; 9 suggested the mother's increasing control as evidenced by an increasing number of mother initiations. It may be that Harkness' findings are idiosyncratic or that, as Snow suggests (1977a), the illustrations and text in story reading present a more complex situation than in other interactional contexts such that greater control need be imposed by the mother.

### *Summary*

The linguistic interaction occurring between normal preschool children and adults in joint activity may be characterized by a series of trends. These trends reflect uses of language over time as the child develops increasing language ability. In general, the mother uses language functionally to manipulate turn-taking and to enlist the participation of the child. As the child's language facility increases, he is able to engage with the adult in conversation more frequently and sustain it over more conversational turns. As conversation is increasingly characterized by contingent or related utterances, the linguistic and conceptual complexity of the language also increases. Questions, one major means of fostering contingent language, increase in occurrence on the part of the adult and child as the child's language development proceeds. In addition, sole repetitions of previous utterances decrease over time, being replaced by substantive additions

or by acknowledgments. Finally, noncontingent language, principally initiations, are associated with higher linguistic ability in children.

The foregoing provides a context for understanding the functions of language in verbal interaction between mothers and normal preschool children. As these uses of language are contingent on the child's linguistic development, one may better understand the characteristics of verbal interaction between mothers and language impaired children in light of these findings.

## LANGUAGE IMPAIRED CHILDREN

Before describing the nature of linguistic interaction between preschool language impaired children and their mothers, it is necessary to define the population of children being discussed as identified in the United States.

While most children learn language with little or no difficulty, there is a segment of the child population who acquire language facility only with direct instruction, and then, with possibly incomplete success. As language involves the interaction among content, form, and use; difficulties may lie within or in interaction between any of these components. Where *form* refers to the conventional system of sounds, words, and the rules for meaningfully combining them; *content* refers to the ideas about objects and events in the world; and *use* refers to the contexts of language use and functions for which it is used; language impaired children may be deficient in any or all of these areas, whether receptively or expressively (Bloom and Lahey, 1978). Language disorders may co-occur with other handicapping conditions such as mental retardation, but as considered in this discussion they characterize children with "a disorder in one or more of the basic psychological processes involved in understanding or in using spoken... language which cannot be explained by mental retardation, emotional disorder, sensory, or environmental deprivation (Federal Register, Nov. 29, 1976, 41, No. 230)." As such, language impaired children may be considered to exhibit one type of learning disability. If, as Ingram suggests, between five and twelve per cent of elementary school children in the United States suffer from serious speech and language disorders, and that preschool children exhibit the highest proportion of all types of developmental language disorders, this latter group is an especially worthy object of consideration (Cross, 1978a). Thus, research which helps elucidate the nature of verbal exchange between preschool language impaired children and their mothers, follows.

### *General Characteristics of Verbal Interaction*

The characteristics which define the nature of linguistic interaction between mothers and preschool language impaired children are in part a function of the child's language deficit. Cross has established that the mother uses speech which is sensitive to the child's age and to his linguistic maturity; indeed, the child's receptive language control was found to be a better predictor of the mother's discourse adjustments than the child's chronological age (Cross, 1977; Cross, 1979). That the mother's speech adjustments extend beyond the surface form of language, that is, the syntax, to the content and use of language in context, has also been demonstrated by Cross. Investigating mother's speech to fast versus slow language learners on a number of different

variables, Cross found many more differences at the level of discourse adjustments than at the level of syntax (Cross, 1978b). Although language impairment has traditionally been defined according to deficient surface forms of language characterizing the child's speech, studies directed toward the child's use of language in context have also revealed difficulties at this level (Bryan, Donahue, and Pearl, 1981; Rom and Bliss, 1981). For example, Geller and Wolner found language disordered children to be deficient in language use, specifically in the number of communicative intentions expressed (1976). Thus, the child's language deficits and the mother's speech adjustments may be said to extend to the area of language use and be considered to be mutually influenced by each other.

In general, language disordered children have been characterized as less assertive in linguistic interaction than normal children (Bryan, Donahue, and Pearl, 1981). Handicapped children, ages one to four, consistently receive lower involvement ratings than normals when mother-child dyads are observed in a free play context (Kogan and Tyler, 1973). Comparing preschool peer dyads in a play context, Rom and Bliss found normal children produce significantly more utterances than language disordered children (1981). Further, in a story telling context with three to five year olds, normals were judged to be active and aggressive verbal participants while language deficient children were often passive listeners and hesitant conversants (Stein, 1976). Corroborating the less active involvement of language disordered children in adult-child joint interaction, Donahue speculates that language disordered children fail to see that establishing a shared discourse topic is an interactive task (Donahue, Pearl, and Bryan, 1980). Further, Gallagher and Darnton (1978) note that language disordered children are less able to make themselves understood than normals due to an inability to revise misunderstood utterances. Spekman reported that learning disabled children communicate less effectively than their normal peers, as measured by the amount of verbal interaction required to convey information (Spekman, 1978). Finally, three to five year old language deficient children evidenced many back channel verbal utterances in a story telling context (Watson, 1977). The language deficient children significantly exceeded normals in use of head nodding or other minimal acknowledgments in contrast to contributing more substantively to the exchange.

As stated earlier, the linguistic characteristics of the language disordered child influence the mother's contribution to the verbal interaction observed between the two. In general, mothers of preschool language delayed children have been found to address fewer utterances to their children than mothers of normal children, thus suggesting that the language delayed child receives less conversational stimulation than normals at home (Cross, 1978a). Further, in assessing the home environments of language delayed two to six year old language impaired and normal children, mothers of the former were found to receive lower verbal responsiveness ratings. These mothers interacted less frequently with their children, except with respect to meeting physical needs, than mothers of normal children; mothers of the normals were more likely to engage in joint participatory activities with their children (Wulbert, et. al., 1975). Noting similar differences, Lasky and Klopp conclude that the differences observed between mothers and normal versus language impaired children lie chiefly in the relationships

between interaction patterns of the two dyad types (1982). Specifically, they found that the mothers' mean length of utterance and frequency of utterance was positively related to the normal child's linguistic and chronological ages, whereas such relationships were absent between mothers and language impaired children. Thus the authors conclude that mothers and normal children are more synchronized in their linguistic interaction than mothers and language impaired children. Summarizing their observations of language impaired and normal mother-preschool child dyads, Schodorff and Edwards (1983) note that parents of the former evidence fewer total words, total utterances, and utterances per conversational turn than parents of normal children. In addition, the frequency and variety of interaction of parents with language impaired children is less as compared with parents and normal children. Further, parents of the language disordered fail to provide consistent referents for their children's utterances; that is, there is a decreased tendency to dialogue with the child and comment directly on the semantic content of the child's preceding utterance (Millet and Newhoff, 1978). Apparently parents of language impaired children talk more to the child than with him (Schodorff and Edwards, 1983). Based on these observations, it appears that the language environment of the language disordered child is deficient with respect to some of the enhancing features of normal mother-child interaction. The relationship between the language occurring between the mother and child may be described as a circular interaction in which the child's delay is instrumental in creating a linguistic milieu which exacerbates the problem (Cross, 19781).

### *Contingent Language*

#### *Questions*

Previously cited research has suggested the high frequency of questions occurring in speech between parents and preschool children (Holzman, 1972; Savic, 1975; Remick, 1976). If, as many researchers suggest, the number and nature of questions occurring between parents and language impaired children is distinct in some respects from that between parents and normal children, then questions may be viewed as a major source of disparity in the contingent language observed between the two dyad types.

In general, language impaired children ask fewer questions than normals in interaction with others (Morehead and Ingram, 1976). When presented with inadequate messages, language impaired children show a lower ratio of clarification requests than normals, though possessing language skills sufficient to resolve the ambiguity (Pearl, et. al., 1979; Donahue, et. al., 1980; Watson, 1977, Woolf, 1983). Further, language disordered preschool children exceed normals in using requests to demand action; normals, in contrast, use questions more to maintain conversation by posing requests for information and formulating requests requiring a verbal response (Prinz, 1982). Morehead suggests that language impaired children generally exhibit a socio-linguistic posture which is antithetical to seeking information by the linguistic code (Morehead and Ingram, 1976).

As reported for language impaired children, mothers of children with language disorders ask questions of their children less frequently than mothers of normals

(Cramblit and Siegel, 1977; Lasky and Klopp, 1982). Further, the frequency of questions by mothers of normal children is positively correlated with the child's language and chronological ages, while no parallel significant relationship was found between mothers and language impaired children (Lasky and Klopp, 1982). The number of questions produced by mothers of normals was related specifically to the incidence of questions, answers, acknowledgments, commands, and naming by the child; whereas the mothers' use of questions was not statistically related to the language impaired children's use of any categories of response. Apparently mothers who perceive the child as linguistically deficient tend to merely ask questions they are sure the child can answer to ensure elicitation of a response (Seitz and Riedell, 1974). Children, in turn, tend to respond to few such simple questions. Comparing normal and language disordered preschool children in book reading, puzzle building, and free play contexts, Lasky and Klopp (1982) found that language impaired children failed to respond to 78% of mother's questions, versus 65% with normals; normals responded correctly to 32% of questions by mothers versus 22% with language impaired children. Based on the above observations, it appears that the occurrence and use of questions in the linguistic interaction observed between mothers and preschool language disordered children is demonstrably different from that between mothers and normal children, thus contributing generally to altered interaction patterns.

#### *Repetitions, Additions, Acknowledgments*

In addition to questions, utterances which repeat, add, or acknowledge previous utterances are forms of contingent speech whose occurrence is influenced by the child's linguistic competence.

In general, language impaired preschool age children receive more utterances from their mothers which are exact repetitions than normal children (Cross, 1978a). Comparing speech directed to two four year olds, Cramblit and Siegel (1977) similarly found a much higher proportion of repetitions to the language impaired child than to the normal child. Percentages of language reflecting partial or complete repetitions were 28% and 8% respectively. Since self-repetitions are the most frequent forms of repetition used either by mothers of language impaired or normal children (Lasky and Klopp, 1982), the disparity in percentages suggests mothers of language impaired children are less successful in achieving alternate turn-taking. Investigating preschool language impaired and normal children and their mothers in book reading, puzzle building, and free play, Lasky and Klopp (1982) found all forms of imitation by mothers of normal children to be related to the child's mean length of utterance, language age, and chronological age. In contrast, the absence of this relationship between mothers and language disordered children suggests less synchrony between the child's linguistic competence and the mother's linguistic stimulation.

As with their mothers, three to four year old children with language disorders tend to sustain discourse with what are termed focus utterances, partial or complete repetitions of a prior utterance, more frequently than normals (Van Kleeck & Frankel, 1981). Normal children, in contrast, use more substitutions in which they repeat part of a prior utterance but also substantively add to it. Normal and language impaired

children may also be distinguished by their acknowledgment of previous utterances by others in that normal children acknowledge other's utterances significantly more frequently than language impaired children (Rom and Bliss, 1981). Further, according to Lasky and Klopp (1982), mother's acknowledgments of their normal child's utterances are positively related to the child's language and chronological ages and his mean length of utterance. The absence of this relationship between mothers and their language impaired children again suggests interaction which is less well suited to the linguistic characteristics of the child. Finally, parents of language impaired children are apparently less likely to comment on, by adding to the semantic content of the child's utterances (Schodorf, et. al., 1983), than parents of normal children. Parents of normals engage in more dialogue with the child and elicit a greater amount of contingent speech. Comparing the dyadic texts of two contrasting mother-child pairs, Lieven notes few instances of well constructed dyadic texts between the language impaired child and his mother. There was a high proportion of child utterances to which the mother did not respond at all, and responses that did occur were often semantically unrelated to child utterances (Lieven, 1978). The child's speech was repetitive, uninformative, and hard to interpret. Lieven comments that it is difficult for an individual, in this case the mother, "to respond informatively, to expand or extend utterances which are extremely repetitive and seem not to relate clearly to anything in the immediate context (Lieven, 1978)."

#### *Noncontingent Language*

As with contingent language, the noncontingent language which occurs in interaction between mothers and language impaired children is distinctive in some respects from that which occurs between mothers and their normal children. Commands or imperatives are one such type of noncontingent speech in that they frequently arise on the basis of the child's behavior, not on his linguistic contributions. In general, mothers of language impaired children have been observed to direct more commands to their children than mothers of normals, resulting in a less complete and more directive interaction (Lasky and Klopp, 1982; Cramblit and Siegel, 1977; Schodorf and Edwards, 1983). Peterson and Sherrod observed that mothers of language impaired children focused less on the child's linguistic utterances and more on his physical behavior, resulting in a higher frequency of language irrelevant to the interaction than present between mothers and normal or Down's syndrome children (1982). Bondurant suggests that the more directive, less accepting behavior of mothers of language delayed children may further exacerbate language deficits (1977). Further, Siegel, Cunningham, and Van der Spuy (1979) explain the greater frequency of spontaneous directives and responses to children's questions with directives as a reaction by the mothers to the degree of responsiveness or lack thereof, of their children. That is, language disordered children were less likely to initiate interactions with their mothers and less likely to react to their mother's failure to respond to them, than normals (Siegel, et. al., 1979). Thus the incidence of the child's initiatives in conversational exchange with his mother appears to influence the extent of directiveness imposed by the mother.

A number of investigators have noted that language impaired children are less

likely than normals to initiate conversational interaction with their mothers, and that this characteristic likely contributes to the overall paucity of facilitative exchanges between the language impaired child and his mother (Cross, 1978a; Siegel et. al., 1979). When language impaired children do initiate interaction, the content of their language is often related to the immediate context of a situation, in contrast to normal children, who are more likely to relate past experience to the present (Snyder, 1976). While not conducted in a story reading context, Snyder observes that language impaired preschool children more often simply label new stimuli versus relating it to past familiar experience, as might be done in a story reading situation.

Attempting to understand reduced child initiatives in conversation with their mothers, Hubbell (1977) suggests that parents' use of more imperatives with language impaired as compared with normal children, tends to inhibit spontaneous discourse. That parents of language impaired children may be engaged more in controlling the child than in conversing with him, may be further supported by Stein's work (1976). Studying normal and language deficient children, ages three to five, in a story telling and block building context, Stein found mothers of normals provided significantly more added information to their children throughout the tasks, than mothers of language impaired children. Lasky and Klopp (1982) again suggest the significance of such differences lie in the relationship between the mother's linguistic behavior and the child's linguistic competence. In the contexts of book reading, puzzle building, and free play, they found mothers' provisions of extra-situational information to normal children was positively correlated with the child's language and chronological ages. The absence of such a relationship between mothers and language impaired children suggests less synchrony in the language occurring between mother-language impaired child dyads and mother-normal child dyads.

### *Summary*

When reviewing literature relevant to describing the linguistic interaction observed between mothers and their language impaired children, a number of characteristics emerge. In general, such characteristics may be viewed partly as a function of the child's linguistic deficits, though there appears to be less overall synchrony between the mothers and language impaired children than between mothers and normal children, as regards the language occurring in interaction.

Research relevant to language disordered children suggests that the language impaired child participates less in conversational interaction and is generally a less assertive conversational partner than the normal child. In turn, mothers talk less with their language impaired children than mothers of normal children, resulting in the former receiving less frequent and less varied stimulation than normal children. As regards specific uses of language, language impaired children's language is characterized by fewer questions seeking information, more repetitions of others' utterances to sustain discourse, fewer acknowledgments of others' utterances, and fewer initiations of verbal exchange, as compared with normal children. Mothers in interaction with their language impaired children also ask fewer questions, use more repetitions of child utterances and self-repetitions to sustain discourse, less frequently expand the child's

ideas by adding to his verbal contributions, and are more likely to control the interaction by commands, than mothers of normal children.

## CONCLUSION

The above review represents an attempt to describe the verbal context of language learning and development among preschoolers in the United States. Further, it suggests that the verbal context differs as a function of the presence of a child language impairment and that the verbal context may in fact exacerbate the child's developmental language delay. It is felt that the ultimate relevance of the research discussed in this review is multiplied as it is compared with and understood in light of research from other cultures, such as the Japanese.

The Japanese and American cultures represent an interesting contrast with respect to exploring early adult-child verbal interactions. Japan and the United States are both child-centered societies and mothers are usually the primary caregivers and the main source of linguistic input for children (Morikawa, Shand, Kosawa, 1988; Clancy, 1986; Fischer, 1970). However, the Japanese are thought to consider children's roles to be strictly differentiated from adult social roles. Thus, Japanese may tend to be more tolerant of children's immature speech than their American counterparts who tend to encourage their children to assume independent roles earlier than in Japanese society. Secondly, Japanese adult speech differs from American uses of language in that it is indirect both in terms of content and syntactic form (Morikawa, Shand, Kosawa, 1988). Japanese mothers tend to rely more on nonverbal postures with their young children and place more responsibility with the listener for understanding what they say, than their American counterparts who assume the speaker is responsible for making the message clear (Clancy, 1986; Fogel, Toda and Kawai, 1988). Since differences such as child social roles and adult communicative styles reflect distinct learning patterns across cultures, comparative research provides an important context for understanding the interaction of cognitive and cultural constraints, specifically on normal and atypical language learning, and on learning in general.

## REFERENCES

- Anderson, A., Teale, W., and Estrada, E. Low Income Children's Preschool Literacy Experiences: Some Naturalistic Observations. *The Quarterly Newsletter of the Laboratory of Comparative Human Cognition*, July, 1980, 2 (3), 59-65.
- Austin, J. *How to Do Things With Words*. London; Oxford University Press, 1962.
- Belinger, D. Consistency in the Pattern of Change in Mother's Speech: Some Discriminant Analysis. *Journal of Child Language*, 1980, 7, 469-488.
- Bernstein, B. A Sociolinguistic Approach to Social Learning. In J. Gould (Ed.), *Penguin Survey of the Social Sciences*. Baltimore: Penguin Books, 1965.
- Blank, M. Language, the Child and the Teacher: A Proposed Assessment Model. In H. Hom and P. Robinson (Eds.), *Psychological Processes in Early Education*. New York: Academic Press, 1977.
- Bloom, L. and Lahey, M. *Language Development and Language Disorders*. New York: Wiley, 1978.
- Bloom, L., Rocissano, L., and Hood, L. Adult-Child Discourse: Developmental Interaction Between Information Processing and Linguistic Knowledge. *Cognitive Psychology*, 1976, 8 (4), 521-552.

- Bondurant, J. *An Analysis of Mother's Speech Provided to Children with Normal Language as Compared to Mother's Speech Provided to Children with Delayed Language*. Unpublished doctoral dissertation, University of Cincinnati, 1977.
- Bowlby, J. Some Pathological Processes Engendered by Early Mother-Child Separation. In M. Senn (Ed.), *Problems of Infancy and Childhood*. Transactions of the 7th Conference. Josiah Macy, Jr. Foundation, 1954, 38-90.
- Brinton, B. and Fujiki, M. A Comparison of Request Response Sequences in the Discourse of Normal and Language Disordered Children. *Journal of Speech and Hearing Disorders*, 1982, 47, 57-62.
- Bruner, J. Learning How to Do Things with Words. In J. Bruner and A. Garton (Eds.), *Human Growth and Development: Wolfson College Lectures, 1976*. Oxford: Clarendon Press, 1978.
- Bryan, T., Donahue, M., and Pearl, R. Learning Disabled Children's Peer Interactions During a Small Group Problem Solving Task. *Learning Disabilities Quarterly*, 1981, 4, 13-23.
- Buim, N., Rynders, J., and Turnure, J. Early Maternal Linguistic Environments of Normal and Down's Syndrome Language Learning Children. *American Journal of Mental Deficiency*, 1974, 79, 52-58.
- Burgemeister, B., Blum, I., and Lorge, I. *Columbia Mental Maturity Scale*. New York: Harcourt, Brace, Jovanovich, Inc., 1972.
- Clancy, P. M. The Acquisition of Communicative Style in Japanese. In B. B. Schieffelin & E. Ochs (Eds.), *Language socialization across cultures* (pp. 213-250). New York: Cambridge University Press, 1986.
- Corsaro, W. Sociolinguistic Patterns in Adult-Child Interaction. In E. Ochs and B. Schieffelin (Eds.), *Developmental Pragmatics*. New York: Academic Press, 1979.
- Cramblit, N., and Siegel, G. The Verbal Environment of a Language Impaired Child. *Journal of Speech and Hearing Disorders*, 1977, 42, 474-482.
- Cross, T. Mother's Speech Adjustments: The Contribution of Selected Child Listener Variables. In C. Snow and C. Ferguson (Eds.), *Talking to Children: Language Input and Acquisition*. Cambridge: Cambridge University Press, 1977.
- Cross, T. Developmental Aphasia, Language Delay, and Conversational Deprivation. In G. Stanley and K. Walsh (Eds.), *Brain Impairment*, Melbourne, Australia: University of Melbourne, 1978a.
- Cross, T. Motherese: Its Association with Rate of Syntactic Acquisition in Young Children. In N. Waterson and C. Snow (Eds.), *The Development of Communication: Social and Pragmatic Factors in Language Acquisition*. New York: Wiley, 1978b.
- Cross, T. Mother's Speech Adjustments and Child Language Learning: Some Methodological Considerations. *Language Sciences*, 1979, 1 (1), 3-25.
- Crowell, D., and Au, K. Using a Scale of Questions to Improve Listening Comprehension. *Language Arts*, 1979, 56 (1).
- Day, M. and Parker, R. (Eds.). *The Preschool in Action*. Boston: Allyn and Bacon, 1977.
- Doleys, D., Doster, J., and Cartelli, L. Parent Training Techniques: Effects of Lecture Role-Playing Followed by Feedback and Self-Recording. *Journal of Behavior Therapy and Experimental Psychiatry*, 1976, 7, 359-362.
- Donahue, M., Pearl, R., and Bryan, T. Conversational Competence in Learning Disabled Children: Responses to Uninformative Messages. *Applied Psycholinguistics*, 1980, 1, 387-403.
- Dore, J. Oh Them Sheriff: A Pragmatic Analysis of Children's Responses to Questions. In S. Ervin-Tripp and C. Mitchell Kernan (Eds.), *Child Discourse*. New York: Academic Press, 1977.
- Ellis, R., and Wells, C. Enabling Factors in Adult-Child Discourse. *First Language*, 1980, 1, 46-62.
- Ervin-Tripp, S. Some Features of Early Adult-Child Dialogues. *Language in Society*, 1978, 7, 357-

373.

- Ervin-Tripp, S., and Miller, W. Early Discourse: Some Questions About Questions. In M. Lewis and L. Rosenblum (Eds.), *Interaction, Conversation, and the Development of Language*. New York: Wiley, 1977.
- Evans, J. *The Significance of Adult Feedback on Child Language Development*. Unpublished M. Ed. dissertation, University of Bristol School of Education, 1977.
- Fischer, J. L. Linguistic Socialization: Japan and the United States. In R. Hill and R. König (Eds.), *Families in East and West: socialization process and kinship ties*. The Hague: Mouton, 1970.
- Fogel, A., Toda, S., Kawai, R. Mother-Infant Face-to-Face Interaction in Japan and the United States: A Laboratory Comparison Using 3-Month Old Infants. *Developmental Psychology*, 1988, 24, 398-406.
- French, P., and MacLure, M. (Eds.). *Adult-Child Conversation*. New York: St. Martin's Press, 1981.
- Gallagher, J. (Ed.). *Windows on Russia*. A Report of the United States-U.S.S.R. Seminar on Instruction of Handicapped Children. U.S. Department of H. E. W., Washington, D. C., 1974.
- Gallagher, T. and Darnton, B. Conversational Aspects of the Speech of Language Disordered Children: Revision Behaviors. *Journal of Speech and Hearing Research*, 1978, 21, 118-135.
- Gallimore, R. Product and Process in Applied Development Research: Education and the Children of a Minority. *Advances in Developmental Psychology, Vol. III*. Hillsdale, New Jersey: Lawrence Erlbaum, in press.
- Gallimore, R. *The Regulatory Function of Responsive Teacher Questions*. Unpublished, undated paper.
- Garvey, C. *On Responding*. Unpublished manuscript, 1978.
- Garvey, C. Requests and Responses in Children's Speech. *Journal of Child Language*, 1975, 2, 41-63.
- Garvey, C. The Contingent Query: A Dependent Act in Conversation. In M. Lewis and L. Rosenblum (Eds.), *Interaction, Conversation and the Development of Language*. New York: Wiley, 1977.
- Geller, E., and Wollner, S. A Preliminary Investigation of the Communicative Competence of Three Linguistically Impaired Children. Unpublished paper presented at New York State ASHA Meeting, 1976.
- Glanzer, D., and Dodd, D. Developmental Changes in the Language Spoken to Children. Paper presented at the Biennial Meeting of the Society for Research in Child Development, Denver, 1975.
- Greeno, J. Psychology of Learning: 1960-1980. *American Psychologist*, August, 1980, 35, 713-728.
- Bumperz, J., and Hymes, D. (Eds.). *Directions in Sociolinguistics*. New York: Holt, 1972.
- Harkness, F., and Miller, L. A Description of the Interaction Among Mothers, Children and Books in a Bedtime Reading Situation. Unpublished paper presented at Boston University Conference on Language Development. Kingston, Ontario: Queens University, October, 1982.
- Heath, S. B. What No Bedtime Story Means: Narrative Skills at Home and School. *Language and Society*, 1982, 11, 49-76.
- Hekken, S., and Roelofsen, W. More Questions than Answers: A Study of Question-Answer Sequences in a Naturalistic Setting. *Journal of Child Language*, 1982, 9, 445-460.
- Herrnstein, R., and Boring, E. (Eds.). *A Source Book in the History of Psychology*. Cambridge, Massachusetts: Harvard University Press, 1965.
- Hilgard, E., and Bower, G. *Theories of Learning*. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1975.

- Holzman, M. The Use of Interrogative Forms in the Verbal Interaction of Three Mothers and Their Children. *Journal of Psycholinguistic Research*, 1972, 1 (4), 311-336.
- Hubbell, R. On Facilitating Spontaneous Talking in Children. *Journal of Speech and Hearing Disorders*, 1977, 42, 216-231.
- Ingram, T. Speech Disorders in Childhood. In E. Lenneberg and E. Lenneberg (Eds.), *Foundations of Language Development*. New York: Academic Press, 1975.
- James, S., and Seebach, M. The Pragmatic Functions of Children's Questions. *Journal of Speech and Hearing Research*, 1982, 25, 2-11.
- Kaye, K., and Charney, R. Conversational Asymmetry Between Mothers and Children. *Journal of Child Language*, 1981, 8 (1), 35-49.
- Keenan, E. Conversational Competence in Children. *Journal of Child Language*, 1974, 1, 163-183.
- Kogan, K., and Tyler, N. Mother-Child Interaction in Young Physically Handicapped Children. *American Journal of Mental Deficiency*, 1973, 77, 492-497.
- Lasky, E., and Klopp, K. Parent-child Interactions in Normal and Language Disordered Children. *Journal of Speech and Hearing Disorders*, 1982, 47, 7-18.
- Lederberg, A. The Language Environment of Children with Language Delays. *Journal of Pediatric Psychology*, 1980, 5 (2), 141-159.
- Levinson, J. The Relationship Between Child Utterances and Parent Responses. *Papers and Reports and Child Language Development*, No. 19. California: Stanford University, 1980.
- Lieven, E. Conversations Between Mothers and Young children: Individual Differences and Their Possible Implications for the Study of Language Learning. In N. Waterson and C. Snow (Eds.), *The Development of Communication: Social and Pragmatic Factors in Language Acquisition*. New York: Wiley, 1978.
- Luria, A. *Language and Cognition* (J. Wertsch ed.). New York: Wiley, 1982.
- Marshall, N., Hegrenes, J., and Goldstein, S. Verbal Interactions: Mothers and Their Retarded Children. *American Journal of Mental Deficiency*, 1973, 77, 415-419.
- Martlew, M. Mothers' Control Strategies in Dyadic Mother/Child Conversations. *Journal of Psycholinguistic Research*, 1980, 9 (4), 327-347.
- Mason, J. *Pre-Reading: A Developmental Perspective* (Technical Report 198). Urbana: University of Illinois, Center for the Study of Reading, February, 1981.
- Masur, E. Preschool Boys' Speech Modifications: The Effect of Listeners' Linguistic Levels and Conversational Responsiveness. *Child Development*, 1978, 49, 924-927.
- McDonald, L., and Pien, D. Mother Conversational Behavior as a Function of Interactional Intent. *Journal of Child Language*, 1982, 9, 337-358.
- McNamee, G. The Social Interaction Origins of Narrative Skills. *The Quarterly Newsletter of the Laboratory of Comparative Human Cognition*, October, 1979, 1, 63-68.
- Mehan, H. *The Competent Student*. Mimeo, University of San Diego, February, 1979.
- Meyers, J., and Bean, L. *A Decade Later: A Follow-up of Social Class and Mental Illness*. New York: Wiley, 1968.
- Millet, A. and Newhoff, M. Language Disordered Children: Language Disordered Mothers. Unpublished paper presented at the Annual American Speech, Language and Hearing Association Convention, San Francisco, California: 1978.
- Mishler, E. Studies in Dialogue and Discourse: II. Types of Discourse Initiated by and Sustained Through Questioning. *Journal of Psycholinguistic Research*, 1975, 4 (2), 99-121.
- Mishler, E. Studies in Dialogue and Discourse: III. Utterance Structure and Utterance Function in Interrogative Sequences. *Journal of Psycholinguistic Research*, 1978, 7 (4), 279-305.
- Moerk, E. Changes in Verbal Child-Motor Interactions with Increasing Language Skills of the Child. *Journal of Psycholinguistic Research*, 1974, 3 (2), 101-116.
- Morehead, D., and Ingram, D. The Development of Base Syntax in Normal and Linguistically

- Deviant Children. In D. Morehead and A. Morehead (Eds.), *Normal and Deficient Child Language*. Baltimore: University Park Press, 1976.
- Morikawa, H., Shand, N., Kosawa, Y. (1988). Maternal Speech to Prelingual Infants in Japan and the United States: Relationships among Function, Forms and Referents. *Journal of Child Language*, 15, 237-256.
- Newport, E. Motherese: The Speech of Mothers to Young Children. In N. Castellan, D. Pisoni, and G. Potts (Eds.), *Cognitive Theory* (Vol. II). Hillsdale, New Jersey: Lawrence Erlbaum, 1976.
- Nie, N., Hull, C., Jenkins, J., Steinbrenner, K., and Bent, D. *Statistical Package for the Social Sciences* (2nd ed.). New York: McGraw Hill, 1975.
- Ninio, A., and Bruner, J. The Achievements and Antecedents of Labelling. *Journal of Child Language*, 1978, 5 (1), 1-15.
- Ochs, E. Transcription as Theory. In E. Ochs and B. Schieffelin (Eds.), *Developmental Pragmatics*. New York: Academic Press, 1979.
- Pearl, R., Donahue, M., and Bryan, T. Learning Disabled and Normal Children's Responses to Requests for Clarification Which Vary in Explicitness. Unpublished paper presented at the Boston University Conference on Language Development, Boston, 1979.
- Peterson, G., and Sherrod, K. Relationship of Maternal Language to Language Development and Language Delay of Children. *American Journal of Mental Deficiency*, 1982, 86, 391-398.
- Phillips, J. Syntax and Vocabulary of Mothers' Speech to Young Children: Age and Sex Comparisons. *Child Development*, 1973, 44, 182-185.
- Prinz, P. An Investigation of the Comprehension and Production of Requests in Normal and Language Disordered Children. *Journal of Communicative Disorders*, 1982, 15, 75-93.
- Remick, H. Maternal Speech to Children During Language Acquisition. In W. Von Raffler-Engel and Y. Lebrun (Eds.), *Baby Talk and Infant Speech*. Amsterdam: Swets and Zeitlinger, 1976.
- Rom, A., and Bliss, L. A Comparison of Verbal Communicative Skills of Language Impaired and Normal Speaking Children. *Journal of Communicative Disorders*, 1981, 14, 133-140.
- Sachs, H., Schegloff, E., and Jefferson, G. A Simplest Systematics for the Organization of Turn-Taking for Conversation. *Language*, 1974, 4 (50), 696-735.
- Savic, S. Aspects of Adult-Child Communication: The Problem of Question Acquisition. *Journal of Child Language*, 1975, 12 (2), 251-260.
- Scherer, N., and Coggins, T. Responses to Requests in the Dialogues of Mothers and Their Stage 1 Children. *Journal of Speech and Hearing Research*, 1982, 25, 58-64.
- Schodorf, J., and Edwards, H. Comparative Analysis of Parent-Child Interactions with Language Disordered and Linguistically Normal Children. *Journal of Communicative Disorders*, 1983, 16, 71-83.
- Searle, J. *Speech Acts: An Essay in the Philosophy of Language*. Cambridge: Cambridge University Press, 1969.
- Seitz, S., and Marcus, S. Mother-Child Interactions: A Foundation for Language Development. *Exceptional Children*, 1976, 42, 445-449.
- Seitz, S., and Riedell, G. Parent-Child Interaction as the Therapy Target. *Journal of Communicative Disorders*, 1974, 7, 295-304.
- Shatz, M., and Gelman, R. Appropriate Speech Adjustments: The Operation of Conversational Constraints on Talk to Two-Year-Olds. In M. Lewis and L. Rosenblum (Eds.), *Interaction, Conversation and the Development of Language*. New York: Wiley, 1977.
- Siegel, L., Cunningham, C., Van der Spuy, H. Interaction of Language Delayed and Normal Preschool Children with their Mothers. Paper presented at the Meeting of the Society for Research in Child Development, San Francisco, 1979.

- Sinclair, J., and Coulthard, R. *Towards an Analysis of Discourse: The English Used by Teachers and Pupils*. London: Oxford University Press, 1975.
- Smith, P., and Connolly, K. Patterns of Play and Social Interaction in Preschool Children. In N. Jones (Ed.), *Ethological Studies of Children's Behavior*. Cambridge: Cambridge University Press, 1977.
- Snow, C. Conversations with Children. In P. Fletcher and M. Garman (Eds.), *Language Acquisition: Studies in First Language Development*. Cambridge: Cambridge University Press, 1979.
- Snow, C. Mother's Speech Research: From Input to Interaction. In C. Snow and C. Ferguson (Eds.), *Talking to Children: Language Input and Acquisition*. Cambridge: Cambridge University Press, 1977a.
- Snow, C. The Development of Conversation Between Mothers and Babies. *Child Language*, 1977b, 4, 1-22.
- Snyder, L. The Early Presuppositions and Performatives of Normal and Language Disabled Children. *Papers and Reports on Child Language Development*, 1976, 11, 221-229.
- Spekman, N. *An Investigation of the Dyadic Verbal Problem Solving Communicative Abilities of Learning Disabled and Normal Children*. Unpublished doctoral dissertation, Northwestern University, 1978.
- Spitz, R. Unhappy and Fatal Outcomes of Emotional Deprivation and Stress in Infancy. In I. Galdston (Ed.), *Beyond the Germ Theory*. Health Education Council, 1954, 120-131.
- Stein, A. *A Comparison of Mothers' and Fathers' Language to Normal and Language Deficient Children*. Unpublished doctoral dissertation, Boston University, 1976.
- Tough, J. Class Differences in the Uses of Language. In *The Development of Meaning*. London: Unwin Ed. Books, 1977.
- Tyack, D., and Ingram, D. Children's Production and Comprehension of Questions. *Journal of Child Language*, 1977, 4, 211-224.
- Van der Geest, T. Some Interactional Aspects of Language Acquisition. In C. Snow and C. Ferguson, (Eds.), *Talking to Children: Language Input and Acquisition*. Cambridge: Cambridge University Press, 1977.
- Van Kleeck, A., and Frankel, T. Discourse Devices Used by Language Disordered Children: A preliminary Investigation. *Journal of Speech and Hearing Disorders*, 1981, 46, 250-257.
- Vygotsky, L. S. *Mind in Society: The Development of Higher Psychological Processes* (M. Cole, V. Johnsteiner, S. Scribner and E. Souberman, Eds.). Cambridge, Mass.: Harvard University Press, 1978.
- Vygotsky, L. S. The Instrumental Method in Psychology. In J. Wertsch (Ed.), *The Concept of Activity in Soviet Psychology*. New York: M. E. Sharpe, 1979.
- Vygotsky, L. S. *Thought and Language* (E. Haufmann and G. Vakar, Eds. and Trans.). Cambridge, Mass.: The M. I. T. Press, 1962.
- Watson, L. Conversational Participation by Language Deficient and Normal Children. In J. Andrews and M. Burns (Eds.), *Selected Papers in Language and Phonology* (Vol. II). Evanston, Illinois: Institute for Continuing Professional Education, A. S. H. A., 1977.
- Wells, C. The Contexts of Children's Early Language Experience. *Educational Review*, 1975, 27, 114-125.
- Wells, C., Montgomery, M., and MacLure, M. Adult-Child Discourse: Outline of a Model of Analysis. *Journal of Pragmatics*, 1979, 3, 337-380.
- Wertsch, J. *Metacognition and Adult-Child Interaction*. Paper presented at Northwestern University Annual Conference on Learning Disabilities, May, 1977.
- Wertsch, J., McNamee, G., Budwig, N., and McLane, J. The Adult-Child Dyad As A problem Solving System. *Child Development*, in press.

- Wheeler, M. Context-Related Age Changes in Mother's Speech: Joint Book Reading. *Journal of Child Language*, 1983, 10, 259-263.
- White, B., and Watts, J. *Experience and Environment: Major Influences on the Development of the Young Child* (Vol. I). Englewood Cliff, New Jersey: Prentice-Hall, 1973.
- Woolf, C. *Responses to Requests for Clarification in Normal and Language Disordered Children*. Unpublished doctoral dissertation, Northwestern University, 1983.
- Wulbert, M., Inglis, S., Kregsmann, E., and Mills, B. Language Delay and Associated Mother-Child Interaction. *Developmental Psychology*, 1975, 11, 61-70.
- Zetlin, A., and Gallimore, R. *An Instructional Model for the Development of Comprehension Strategies through the Regulatory Function of Teacher Questions*. Paper presented at a conference on "The Impact of Specific Settings on the Behavior and Development of Retarded Persons," Westwood, California, 1979.