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QUANTITATIVE AND QUALITATIVE CHANGES THAT OCCUR
UNDER TWO SPEAKING SITUATIONS: LISTENER
VISIBLE TO SPEAKER; LISTENER NOT
VISIBLE TO SPEAKER

By

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B.S., North Dakota State University, 1974


Presented in partial fulfillment of the requirements for the degree of

Master of Arts

UNIVERSITY OF MONTANA

1980

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Communication Sciences
and Disorders

Quantitative and Qualitative Changes That Occur Under Two Speaking Situations: Listener Visible to Speaker; Listener Not Visible to Speaker (67 pp.)

Director: Lynda Miller, Ph.D. 

Language development in children is currently being investigated in terms of language use in context, called pragmatics. These investigations are concerned with how language varies under different communicative and environmental contexts.

The present study dealt with the changes that occur in language when a listener is visible or not visible to the speaker. Twenty-four eight- to nine-year-old boys were presented with a highly structured communication task. The task involved developing a story from a sequential picture story and then telling it to an adult listener. One half of the subjects could see their listener while, for the other half, the listener was seated behind a screen.

Ten variables were used to determine the differences that existed between the stories developed by the two groups: (1) total number of utterances, (2) ratio of complete to incomplete utterances, (3) number of words per complete utterance, (4) number of words per incomplete utterance, (5) number of verifiers used, (6) correct versus incorrect use of definite and indefinite articles, (7) number of static adjectives, (8) correct versus incorrect sequencing of events, (9) number of instances of redundancy, and (10) clarity score.

Results of the study indicated no significant differences existed between the two groups for any of the ten variables; however, a great deal of descriptive information was obtained regarding the use of language of eight- to nine-year-old subjects when presented with the task used in this study. Most interesting was the amount of information subjects of this age level presupposed of their listener. The majority of subjects seemed to credit their listener with being familiar with some or all of the background information necessary to understand the stories being told.

Previous research indicated that correct sequential ordering skills, as well as the appropriate use of definite and indefinite reference, would be attained by this age. Results of the present study revealed that many subjects did not order events sequentially in telling their stories; neither did they use appropriate definite and indefinite reference consistently.

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Chapter 1

INTRODUCTION

Statement of the Problem

In most communication situations a considerable part of the information to be shared is not conveyed verbally, but extracted from situational and contextual cues. The role of situational and contextual influences on verbal behavior is just beginning to be investigated.

That children and adults communicate relatively well with each other is evidence that both consistently integrate one another's verbal and nonverbal behavior and the cues of their environment. In ongoing communication, speakers spontaneously switch to different language codes as different situations demand. In switching codes, speakers must simultaneously consider the situation in which sentences are spoken, the preceding sentences (if any), and the listener's knowledge of the speaker as well as the topics under discussion (Carswell and Rommetveit, 1971).

Speakers must also carefully consider their listeners' role attributes and, accordingly, adjust their communications in order for them to be effective. Listener role attributes include age, sex, sophistication, knowledge of subject matter, and previous experience.

It is possible that such attributes may also be partially dependent

upon whether or not a speaker can see his listener. If a listener is visible, the speaker can use gestures and facial expressions to aid in conveying his message. He can also cue in to nonverbal cues of his listener, such as a nod of the head or a confused look, that may indicate his message is not being understood. The present study investigates the specific kinds of changes that occur in the quantity and quality of language as eight- to nine-year-old children relate information to listeners in two different situations. In the first condition the listener is visible to the speaker; in the other condition the listener is not visible.

The study of language use in context is termed pragmatics, which Bates (Morehead and Morehead, 1976, p. 420) has defined as "rules governing the use of language in context." Bates has outlined four types of pragmatic structures used in carrying out these rules in order to be appropriate in varying contexts. A visible versus a not visible listener may affect the kinds of pragmatic structures children use in communicating. A brief description follows of each of the pragmatic structures described by Bates.

Propositions

Propositions are defined as predicate-argument structures in which an attribute is predicated between two or more arguments. In the statement, "Jim is asleep," *asleep* is the attribute predicated by *Jim*. In the statement, "Jim ate the apple," *ate* is the predicate that relates *Jim* and *apple*. Propositions may be more easily understood as the "stuff of which semantic deep structures are made" (Bates in Morehead and Morehead, 1976, p. 426). They are an internal activity of speakers rather than located in sentences, i.e., they are not always represented verbally.

When a speaker uses a sentence, that sentence contains one or more propositions only insofar as he has constructed the underlying propositional relations or predicate-argument structures as part of his meaning. Even if the sentence fails to encode a proposition in an external sense, the speaker still means that proposition. This is often true of small children; they know what they mean, but cannot always encode it into a sentence understandable to a naïve listener. Propositions are pragmatically based in that they are dependent on the environmental context in which they are used, i.e., speakers construct propositions appropriate to the communicative situation in which they are involved.

Performatives

Performatives in language indicate the speaker's goal in using a sentence. Discussed as "speech acts" (Searle, 1969), they describe the speaker's intention to issue a command, ask a question, make a promise, etc. Performative functions are not always stated directly in the surface structure of an utterance, but they may be carried indirectly as in "(I say to you) put your books away." "I say to you" is not verbalized. Searle has described three types: locutionary, perlocutionary, and illocutionary.

Locutionary acts are those performed in order to communicate. They basically consist of constructing propositions and phonating them. In the statement, "She sings," the speaker has constructed a proposition and verbalized it, thereby performing a locutionary act.

Perlocutionary acts are by-products or side effects of communication.

If a speaker said, "You don't look 30," he may flatter, embarrass, or insult his listener depending on the circumstance. These perlocutionary acts may be intentional or unintentional.

Illocutionary acts are those accomplished by communicating the intent to accomplish them. They are, in other words, the conversational force of the utterance. The most straightforward way to accomplish these acts is by using an explicit performative as in, "I pronounce you . . . ," "I promise you . . . ," etc. Orders, requests, instructions, warnings, and promises are all distinct illocutionary types.

The first utterances of children have been studied in terms of performative functions. Gruber (1975) has described the transition of a child's early speech from performative to declarative statements. He concluded that, in the earliest utterances, words like "see," "want," and "me" predominate and serve as direct expressions of what is happening by means of an utterance. Utterances directly indicate something, e.g., "see" expresses "I indicate to you" As the child becomes more mature in his language use, he begins to use declarative type utterances where the explicit performative is omitted from the surface structure. In adult language, every utterance is obligatorily dominated by an underlying performative. The statement, "The baby is crying," has the underlying form or performative hypersentence, "I say to you the baby is crying."

Presuppositions

This type of pragmatic structure deals with the information that must be known and understood (presupposed) by both the speaker and the

listener for a sentence to have meaning to its intended audience. Presuppositions are the shared aspects of verbal behavior settings. Three kinds of presuppositions have been described: semantic, pragmatic, and psychological (Bates, 1976).

Semantic presuppositions are conditions which are necessary for a sentence to be true or false, while pragmatic presuppositions are conditions which are necessary for a sentence to be appropriate in a given context. Psychological presuppositions refer to sentences constructed in terms of information which is assumed to be previously known by both the speaker and listener and that newly asserted in the sentence.

The knowledge that the speaker and listener share a degree of similar contextual information allows the speaker to specify less information in his verbal message. These situational influences lead to ellipses in verbal communication. Elliptical statements are shortened forms of sentences and they are understood through context. The context may be provided linguistically or it may be provided nonlinguistically through the immediate situation of the speaker and listener or by shared cognitive, social, or cultural history, or presuppositions (Holzman, 1971).

Gunter (1963) has described two types of elliptical statements. Contextual ellipses are those with linguistic content which can be transformed into grammatical sentences on the basis of the preceding sentence and the rules of English grammar. Declarative sentences are elliptical in that performative functions are deleted. The second type of elliptical statements is telegraphic. These are understood with reference to nonlinguistic context, including situational as well as cognitive, social and/or cultural contextual variables. They depend for their

expansion to underlying form upon grammatical cues in the elliptical forms and hints from the setting.

Deixis refers to the use of nonlinguistic context in communication. Deictic statements are cognitively simpler to construct and are a form of telegraphic ellipsis. Pointing is one use of deictic context as in saying, "This is mine," while pointing to a book on the table. Personal and demonstrative pronouns refer deictically to objects and people in the immediate environment. In the statement, "Throw it," *it* refers to *the ball*, but *the ball* is not represented linguistically. There is an instruction for the listener to look for the ball; this instruction takes the surface form of a deictic element (*it*). In using deictic references, a speaker presupposes the listener will know to what the pronoun or pointing gesture refers.

The use of definite and indefinite articles also indicates information that a speaker presupposes of his listener. Use of the definite article *the* signals reference to a specific item that the listener would understand. If a speaker said, "We moved the piano today," he would presuppose his listener knew which piano was moved. On the other hand, use of the indefinite article *a* does not refer to a specific item, it refers to any item in its class. Using the same example, "We moved a piano today," the use of *a* indicates that the speaker presupposed his listener is not familiar with the particular piano that was moved.

In every sentence there is at least one element that states what the sentence is about. This is the topic of the sentence. It is known from either the linguistic or behavioral context and represents information the speaker and listener mutually share. This information may be shared

from sentences already uttered. The remainder of the sentence is the comment which provides new information pertaining to the topic. In Chafe's (1970) terms the topic can be regarded as old information, while the comment is regarded as new information. Speakers assume some of the information they are communicating is new in that it is being introduced to their listeners for the first time.

Word order, intonation, and stress seem to play the major roles in representing new and old information. It has been suggested by deGroot and Gabelentz (Hornby, 1971) that temporal order may be the most basic way to distinguish between old (topic) and new (comment) information in that topic precedes comment. A study by Hornby (1971), however, demonstrated that this is not always the case. Six-, eight-, and ten-year-old children were able to utilize grammatical structure and stress as well as word order to determine topic-comment relations. Results indicated that children did not show a tendency to use word order to determine the topic until age eight. Hornby concluded that contrastive stress appeared to be the primary device to mark the topic-comment distinction. The use of pronouns indicates that the speaker assumes his listener shares the knowledge of to what the pronoun refers.

The topic-comment relation in speech begins to develop as early as the one-word stage in that a child encodes an element in a situation that is undergoing the greatest change. As a child's linguistic system matures, he learns to encode more and more explicit information in his comments. With increasing linguistic maturity, he learns to determine how much information is necessary to encode to listeners with different role attributes. Children who are unable to see their listeners may

find it necessary to encode more information because they cannot use nonverbal cues to help convey their messages. Neither are they able to judge their listeners' receptions of their messages as evidenced by facial expressions.

The major task for children in the course of pragmatic development is to learn when *not* to presuppose, since they assume their listeners' world and experiences are identical to their own. This egocentric behavior in language is discussed at greater length in the section on The Development of Communicative Effectiveness (p. 13).

Conversational Postulates

Conversational postulates are assumptions about the nature of human conversation. It is assumed that normal speakers who enter into a conversation agree to be cooperative in that they will tell the truth, they will offer information assumed to be new and relevant to their listeners, and they will only request information that they sincerely want to have.

Intentional violations of these assumptions contribute additional information to messages. Irony and sarcasm are violations in that the information stated is not explicitly true as in a person's statement, "What wonderful weather!" on a cold, rainy day. Speakers violate the postulate of only asking for information they sincerely want to have when they use polite speech. A speaker asking, "Do you know the time?" is really saying, "Tell me the time," in a polite way.

Young children do not always understand violations of conversational postulates. Instead, they take the statements according to

their literal meanings. If an adult asks, "Can you pick up your toys?" a child may simply reply, "Yes," not realizing that this polite request was really an indirect instruction to pick up the toys.

The ability to use language in subtle forms, and to correctly predict which assumptions listeners share, is one of the highest achievements in pragmatic development (Bates, 1976). Bates has used a Piagetian framework to describe the development of pragmatic structures. A discussion of how Piaget's cognitive stages relate to the development of Bates' pragmatic structures follows.

Piagetian Theory and Pragmatics

No theory of language acquisition has been explicitly proposed by Piaget, although he did define what he determined to be the relationship between language and intellectual operations. According to Sinclair de-Zwart (Elkind and Flavell, 1969), Piaget felt that the sources of intellectual operations are not found in language, but in the preverbal sensorimotor period where a system of schemes is elaborated that prefigures structures of classes, relations, and elementary forms of conversation and operative reversibility. The formation of representational thought and the acquisition of language belong to the more general process that constitutes the symbolic function in general. The child who is just beginning to communicate verbally has already learned to represent his reality in symbolic form during play. "The symbolic function can be defined essentially as the capacity to represent reality through the intermediary of signifiers that are distinct from what they signify" (Sinclair de-Zwart in Elkind and Flavell, 1969, p. 318). The first verbalizations, symbolic play, and deferred imitation are

all linked together in the symbolic function in that they are all signals used to represent reality and in that they are distinct from what they signify.

Piaget regarded language as a ready-made system that contains a wealth of cognitive instruments such as relations and classes available to thought. Linguistic structures are initially acquired as sensorimotor schemes and, coordinated into practical groups, become transformed into operations. Operations are defined as actions that have become interiorized and reversible.

Piagetian theory is biological in that it proposes that developmental stages are manifested as a child passes through maturational phases; it is pragmatic in that it places emphasis on the active processing of experience as children learn to deal effectively with various conditions and contexts they encounter.

The following section, Cognitive/Pragmatic Developmental Stages, provides the reader with a brief review of each of Piaget's four stages of cognitive development, as well as the relation of each stage to the development of pragmatic structures.

Cognitive/Pragmatic Developmental Stages

Sensorimotor Stage (birth to two years)

In this earliest stage, infants build a basis for their thinking by developing their perceptions and their ability to manipulate objects through experience with their environment. According to Bates (1976), performatives have their beginnings in the prelinguistic stage. The

intention to communicate is inferred from gestures, eye contact, and prelinguistic vocalizations. Before they learn to talk, children use adults as a means to obtain desired goals such as in pointing to objects or crying when hungry.

One-word messages are viewed as performatives, marked as commands or labels, by accompanying gestures and intonation. They obey the rules of informativeness and appropriateness in a given context.

Preoperational Stage (two to seven years)

Children continue to explore and attempt to organize their world at this stage. Most of the learning that occurs is intuitive as opposed to logical. Children make many deductions and arrive at some level of understanding, but they are not yet able to explain what they know. The child's knowledge is not yet systematized and thought processes are irreversible. They cannot yet differentiate between words and their referents or between self-created play, dreams, and reality. This stage is marked by egocentricity in that children see the world from only their points of view.

The child's speech at this stage shifts from uttering simple or partial propositions to encoding both the topic and comment elements as well as references to context including the speaker, listener, and relative place and time of the utterances.

Concrete Operational Stage (seven to twelve years)

Children begin, at this stage, to work mentally with thoughts about concrete experiences without having to manually manipulate materials.

The essence of the concrete operational level of thought is the child's ability to solve a variety of problems in a systematic fashion. A child is able to formulate hypotheses and explanations about concrete matters. At this stage the phenomenon of reflexion becomes general (Piaget, 1926). Reflexion is defined as the tendency to unify beliefs and opinions and systematize them in a manner to avoid contradiction. Before the age of seven or eight, children make no effort to stick to an opinion on a subject, but adapt successive opinions on different occasions that, if compared, would contradict each other.

At the concrete operational level, thought processes become reversible. A child learns to group, relate, and class objects hierarchically. This system of classification is reversible and, thus, operational, i.e., a child can see that a man can be a father or a postman and that one man can be both. Another basic structure that evolves approximately the same time as classification is the ability to arrange items in serial order from less to more, smaller to bigger, etc.

The manifest criterion for the full operational structure is observed when the concept of conservation is perceived. The child understands that external changes or transformations of certain aspects of physical objects can be reversed, e.g., a long, rolled out piece of clay can have the same mass as a small ball of clay.

In terms of language, this ability to reverse means a child can encode and decode his own sentences before speaking them. He is able to consider his own and his listener's viewpoints and the amounts of information that can or cannot be presupposed. At this stage, egocentricity in language declines; a child begins to use socialized speech. Egocentricity is discussed further in *The Development of Communicative Effectiveness* (p. 13).

Formal Operational Stage (adolescence)

Piaget's final stage of cognitive development is that at which truly abstract thinking takes place. The child can construct theories and make logical deductions without empirical evidence. He can construct contrary-to-fact hypotheses and reason about them "as if" they were true.

At this stage the child's development of pragmatic structures should be at the adult level. He should be able to accurately presuppose the amount of information that he and his listener share in communicative interactions, as well as the amount of information it is necessary to encode more explicitly. A child should now recognize violations of conversational postulates and respond appropriately to forms of polite speech, e.g., "Do you know the time?" Forms of sarcasm and irony should be understood and should no longer be taken literally.

The Development of Communicative Effectiveness

The effectiveness of communication is measured according to the degree of correspondence between the message encoded by a speaker and that decoded by a listener. Speakers can maximize their effectiveness by considering their particular listeners' attributes (age, sex, knowledge of subject, etc.), and by receptiveness to feedback from their listeners that may indicate communication failure. Where adults make an effort to understand and be understood, young children automatically assume they understand and are understood.

Young children's speech is egocentric in that they do not perceive listener attributes, neither are they receptive to feedback from

their listeners. They speak to others just as they might talk to themselves--assuming that their listeners' experiences are the same as their own.

To the extent that the child fails to discriminate those role attributes of the other which are relevant to the sort of message the child should send to the other, in the latter's role of listener, to that extent is the message likely to be ill-adapted to the other's informational needs and hence inadequately communicative. Conversely, to the extent that the child does take an accurate measure of the other's role attributes, and then actively uses this knowledge to shape and adapt this message accordingly, to that extent ought the communication be an effective, nonegocentric one (Flavell, 1968, p. 8).

It has been suggested (Flavell, 1968; Moerk, 1977; Piaget, 1926) that role taking skills and communicative behaviors mediated by these skills develop with age as egocentric speech becomes more socialized.

Piaget (1926) compared children's ability to relate stories and instructions to their peers. The ability was measured in terms of how much their listeners had understood. Results of the study indicated that speakers ages six to seven gave poorly ordered accounts to their listeners and, in general, did not consider their listeners' viewpoints. By the age of seven and one-half to eight, children seemed to have learned not to presuppose that their listeners would automatically understand them and, thus, they gave correctly ordered accounts of information. Piaget concluded that the egocentric factors of verbal expression (elliptical style, indeterminate pronouns, etc.) and of understanding itself, as well as lack of order, do not allow genuine understanding between children before the age of seven or eight. These conclusions suggest that the eight- to nine-year-old children used in the present study should have the ability to give correctly ordered accounts of stories.

In a study by Krauss and Glucksberg (1969), boys in kindergarten, first, third, and fifth grades were given the task of describing a group of items one-by-one to a listener seated behind a screen. The listener was to choose the items from an identical group that fit the speakers' descriptions. Results indicated that, as grade level increased, the speakers' descriptions improved as measured by the listener's ability to correctly choose the items described. This suggests that older children will take into account the difficulties an unseen listener may experience in understanding messages.

Hoy (1975) investigated the ability of five-, seven-, and nine-year-old children in terms of instructing peers in model building. The instructions were given under four increasingly restrictive communication situations. Results indicated that the instructions of older children were more listener appropriate, and also that the instructions given under the least restrictive communication channels were more effective. Hoy concluded that, in measuring egocentrism, listener attributes and situational parameters must also be considered.

Results of Piaget's, Krauss and Glucksberg's, and Hoy's studies all indicate that children between seven to nine years of age are able to vary their messages in order to communicate effectively to listeners with different role attributes. These results lend support to this writer's hypothesis that eight- to nine-year-old children will vary their messages appropriately to listeners they can or cannot see.

Children's ability to correctly assess their listeners' needs according to varying listener attributes has also been assessed by Flavell (1968) and Dollaghan (1977). Flavell found that second grade children

explained a game to sighted listeners and blindfolded listeners in the same way. Eighth grade subjects seemed to understand that blindfolded and sighted listeners needed different amounts of information in order to be adequately informed. They composed messages containing more different words for the blindfolded listeners.

Dollaghan (1977) investigated the difference between messages conveyed by seven-year-old boys to adults and four-year-olds. Her results indicated that the subjects employed different presuppositions in communicating with listeners of different ages. Messages to the younger listeners consisted of a greater number of utterances and gestures, shorter utterance length, and more attempts to determine if their listeners had understood.

Flavell's results indicated that seven-year-olds are not sensitive to listener needs in terms of being visible to their listener, while Dollaghan's results indicated that seven-year-olds were sensitive to the needs of listeners of different ages. The present study determines if children who are one to two years older than Flavell's or Dollaghan's subjects are sensitive to listener needs when they can or cannot see the person to whom they are speaking.

Investigations by Fry (1966), Cohen and Klein (1968), and Asher (1976) also indicate that older subjects deliver more effective messages to their listeners. Fry (1966) assessed the effects of giving eleven- and twelve-year-old children training in communication situations so as to determine if their messages would increase in effectiveness. His results indicated that training did improve effectiveness in situations similar to the training tasks in that speakers learned to be more

concise and direct.

Cohen and Klein (1968) used third, fifth, and seventh graders to assess referent communication. The subjects were paired into speaker/listener couples and each were given identical word pairs. The speaker gave clues such that his listener could determine which word of the pair was the referent. Results showed that the older subjects gave more effective clues.

Using a similar task, Asher (1976) investigated children's ability to appraise communication accuracy. Second, fourth, and sixth grade children gave clues for word pairs in which the referent and nonreferent were similar. One half the subjects judged the quality of their own clues while the other half judged the quality of a peer's clues. Communication accuracy improved across grade level. The younger subjects tended to overestimate the number of cues that were effective.

All of the studies cited suggest that children's communication efficiency generally increases with age. This communication efficiency is synonymous with the development of role taking or ability to view the world from another's viewpoint.

The ability to infer another's capabilities, attributes, expectation, feelings and potential reactions . . . implies the ability to differentiate the other's view from one's own and the ability to shift, balance and evaluate both perceptual and cognitive object input, all of which is clearly cognitive (Selman, 1971).

Piaget has argued throughout his work that children's conversations are egocentric in character until the age of seven to seven and one-half when the intellectual processes of causal explanation and logical justification appear. In Piagetian terms, role taking ability, or the transition from egocentric to socialized speech can be

seen as the development of social and cognitive decentering. Donaldson (1979) does not agree with Piaget. She has argued that preschool children are not so limited in their ability to take another person's perspective. Some empirical evidence exists to support her viewpoint.

In a study by Shatz and Gelman (1973), it was demonstrated that four-year-olds adjusted their speech to different aged listeners. When talking to two-year-olds, the four-year-olds produced shorter sentences. Speech addressed to other four-year-olds most closely resembled speech addressed to adults.

Peterson, Danner, and Flavell (1972) investigated the responses of four- and seven-year-old children when presented with indications of communication failure. Their results indicated that both four- and seven-year-olds readily reformulated their messages when explicitly requested to do so. The seven-year-olds reformulated their messages when requests were implicit, e.g., "I don't understand." There was evidence that the four-year-olds also interpreted this type of feedback as a request for help, but they didn't understand what kind of help was needed. Neither age group reformulated their messages when confronted only with nonverbal facial expressions of listener noncomprehension.

In the present study the subjects who can see their listeners may be presented with facial expressions indicating communication failure, while the subjects who cannot see their listeners will not have these kinds of clues available to them. Subjects who can see their listeners' facial clues have the option of adjusting their communications accordingly.

Maratsos (1973) used a simpler task than either Flavell or Krauss

and Glucksberg to assess young children's abilities to take into account important aspects of their listeners' situations and encode information appropriately.

Three- to five-year-old children were given the task of instructing a listener on which of certain toys to place in a toy car. One group of children was led to believe that their listener could not see them; another group was aware that their listener could see them. The second group of children merely pointed to the toys. The children who thought their listener could not see them made an effort to verbally describe the particular toys.

Results of the Shatz and Gelman, Peterson, Danner, and Flavell, and Maratsos studies lend support to Donaldson's viewpoint that preschool children are not as egocentric as Piaget argued in that they do take some account of their listeners' needs.

Maratsos' findings are of particular concern to the present study in that speakers in both studies are confronted with similar listener situations. Since it has been demonstrated that preschool children, when presented with a simple task, change their method of communicating when speaking to listeners they cannot see, it seems to follow that eight- to nine-year-old children should also have the ability to communicate effectively depending on varying listener role attributes. There are, however, several important differences between the Maratsos study and the present investigation. First, since the subjects are older, the task presented is considerably more complex. Verbal messages are required of speakers under both listener conditions because pointing is not available as a possible response as in the

Maratsos investigation. Considering the task presented, it is possible that a speaker would not find it necessary to alter his message under the two listener conditions, i.e., a speaker with sufficient linguistic maturity could deliver the same clear, ordered account of a story to a listener he could see, and to one he could not see, and have his message understood equally as well by both listeners.

Hypotheses of Present Study

Two groups of subjects were used to determine if differences existed in the manner whereby children communicated to listeners they could or could not see. It was hoped that the study would provide information regarding the ability of eight- to nine-year-old children in "taking the role" of the other person in terms of determining his listener's response categories and tendencies in a highly structured communication situation.

The data collected were analyzed in terms of ten variables hypothesized to reflect communicative effectiveness. It was hoped that these variables would show differences in the messages delivered to visible and not visible listeners. The variables employed and the examiner's hypothesis regarding each are listed below.

1. Total number of utterances. It was hypothesized that the total number of utterances would be significantly different for the two groups.

2. Ratio of complete to incomplete utterances. The examiner believed that the ratio of complete to incomplete utterances would differ significantly for the two groups.

3. Number of words per complete utterance. See Variable 4 for hypothesis.

4. Number of words per incomplete utterance. It was felt that, for Variables 3 and 4, the number of words per utterance, complete and incomplete, would differ significantly for the two groups.

5. Number of verifiers used. It was hypothesized that the group of subjects who could see their listener would use more verifiers because they could obtain listener feedback regarding comprehension of their messages via facial expressions.

6. Correct versus incorrect use of definite and indefinite articles. It was hypothesized that no significant differences would be observed in using appropriate reference as reflected in definite and indefinite articles.

7. Number of static adjectives (those referring to perceptual properties, i.e., shape, size, sound, texture, color). The examiner expected that one group of subjects would use a significantly greater number of adjectives in relating their stories.

8. Correct versus incorrect sequencing of events. The examiner believed that no significant differences would exist in terms of ordering events correctly in telling the stories.

9. Number of instances of redundancy. It was expected that there would be a significant difference between the two groups in instances of redundancy.

10. Clarity score. (The scale of clarity is explained in the next chapter.) It was expected that there would be significant differences between the two groups in their use of clear messages.

Rationale for the variables chosen are discussed in Chapter 2, Materials and Procedures.

Chapter 2

MATERIALS AND PROCEDURES

Subjects

Twenty-five subjects participated in the study. One subject was excluded because tape transcription was difficult due to poor intelligibility. All of the subjects were enrolled in the third grade at the Prescott and Hellgate Elementary Schools in Missoula, Montana.

All subjects, Caucasian males, ages 8-0 through 9-2, met the following criteria:

1. Functioning at or above third grade level in all academic subjects as determined by permanent school records.
2. Consultations with the classroom teachers indicated that subjects were not affected by any speech, language, hearing, academic, or reading problem(s).
3. Written parental permission was obtained.

The listener in the study, a female graduate student in Communication Sciences and Disorders, was the same for all subjects under both conditions. The listener was instructed to give no verbal feedback under either listener condition. Head signals were allowed for "yes" or "no" under the listener visible condition.

Procedure

The testing was conducted at the elementary schools in which the

subjects were enrolled. Each subject was brought by the examiner into a small testing room where a table and three chairs were set up. No specific order was followed in terms of which subjects were brought into the testing situation first. The examiner went to the subjects' classroom and took two to three subjects to the test room. One subject was brought into the test room while the other(s) waited outside in the hall. The experimental condition was changed after each subject, i.e., the first subject was placed under the listener visible condition, the second was placed under the listener not visible condition, etc.

The adult listener was seated in the room when the subject arrived. The subject was introduced to the examiner and the listener. The introductions were followed by a 30-60 second period of establishing rapport with the subject.

The following instructions were then given to all subjects:

We're going to have some fun telling stories with pictures. First, I'll tell you a story using these pictures, and then you will get to use some other pictures and tell a story to Elizabeth. Listen carefully to my story and see how I tell my story to go with the pictures. We'll have Elizabeth wait outside so she can't see the pictures.

At this point Elizabeth, the adult listener, left the room. The examiner showed the subject a three-picture sequence story and told the following narrative:

Training Story

In this first picture we see a clever frog who is in a place he should not be. He is in a fancy restaurant and is going to pull a sneaky trick. He has taken a big jump and is ready to land in someone's delicious green salad.

Here (second picture) we see the poor lady who was served the salad. Our sneaky frog friend has decided to let the woman know he's there and,

although he looks happy, the woman looks surprised, shocked, and angry. Well, naturally (third picture), this woman was not happy about being served a salad with a live frog in it and has immediately gone to the boss to complain. She is very upset. The waiter who served her the salad (examiner pointed to the waiter in the first picture) is also very angry and looks like he is going to set out and find that sneaky, clever frog!

The training story picture was then put aside. The subject received further instructions.

Now, it's your turn. You take a couple of minutes and look carefully at these pictures (subject was given a three-picture sequence story) and make up a good story to tell Elizabeth. After a couple of minutes, we'll turn the story card over (examiner demonstrated) and have Elizabeth come back in. Then you will tell her the story the best way you can. Be sure to remember your story, because you can't look at the pictures again when you tell it. Be sure to tell Elizabeth everything she needs to know because, later on, she will have to tell the story you tell her to another person.

One half of the subjects were then told, "Elizabeth will sit right across the table from you here" (examiner pointed to a chair). "You'll see her, but she won't be able to say anything to you or answer any questions when you tell the story." The other half of the subjects were told,

Elizabeth will sit right across the table from you here, but you won't be able to see her because I'm going to put this screen up between you (examiner showed subject the screen). Elizabeth won't be able to say anything to you or answer any questions when you tell the story.

Each subject was given two minutes to develop his story. At the end of this time, the examiner said, "Now, are you ready? I'll get Elizabeth. Remember to tell her the story so that she will be able to tell it to someone else later." The listener (Elizabeth) then came back into the room and was seated. A screen was put up between the speaker and the listener for the subjects who had been so instructed. The examiner said, "OK, tell Elizabeth the story you have ready."

When the subject finished, the examiner asked him if there was anything he would like to add to his story. The subject was then thanked and returned to his classroom. All the stories were tape recorded for subsequent analysis.

Analysis of the Data

Each story was transcribed by the examiner and scored for each of the ten variables listed in Chapter 1 (pp. 20-21). Due to the time consuming process of transcribing the tapes, the examiner was the only judge. Complete transcriptions of the subjects' stories are reproduced in Appendix B. The analysis of and rationale for each variable are herein described.

1. Total number of utterances. This number included complete and incomplete utterances. Several subjects told a story that consisted of one long sentence connected by "and." In these cases the first and second statements connected by "and" were counted as the first utterance. All subsequent "ands" were disregarded and the statements they connected were counted as individual utterances. Repetitions and instances wherein the subjects started a statement over in the same manner were also disregarded.

Since Dollaghan's (1977) results demonstrated that seven-year-olds used more utterances in communicating to younger listeners, it was hypothesized that the total number of utterances would also differ under the varying listener conditions in the present study.

2. Ratio of complete to incomplete utterances. Complete utterances were defined as consisting of a noun phrase and a verb phrase.

Piaget argued (1926) that, as children move away from egocentric behavior in their speech, elliptical utterances decrease in frequency and verbal messages become clearer. It is possible that environmental variables in communication, such as seeing or not seeing a listener, may affect the degree of egocentricity in speech in terms of using complete or incomplete statements.

3. Number of words per complete utterance. Shatz and Gelman (1973) found that four-year-old children adjusted their speech to younger listeners by using shorter utterances. Speech addressed to their peers was most similar to speech addressed to adults. Dollaghan (1977) found that seven-year-olds spoke in longer sentences to adult listeners than to four-year-old listeners. Listener conditions in this study may also affect the length of utterances speakers use in conveying information.

4. Number of words per incomplete utterance. The rationale for this variable is the same as that presented for Variable 3.

5. Number of verifiers used. This category included any attempts a speaker made to determine if his message was being understood. Statements such as "See?" "OK?" "Understand?" are examples of possible verifying statements. Dollaghan (1977) found that seven-year-olds used more verifiers in speaking to four-year-olds than to adults although the difference was not statistically significant.

Even though all subjects were instructed that no verbal responses were allowed of their listener, it would be possible for the speakers who could see their listener to seek confirmation through facial expressions or a nod of the listener's head. It was expected that, for this reason, the subjects under the listener visible condition would use more verifiers for comprehension.

6. Correct versus incorrect use of definite and indefinite articles. Maratsos (1976) found that preschool children were developing an ability to use specific or nonspecific reference to objects appropriately through their use of definite or indefinite articles. It was hypothesized that this skill would be fully developed by eight- to nine-year-old speakers and that they would correctly determine whether or not a reference specific for themselves would be specific to their listener. The listener condition was not expected to affect correct or incorrect use of definite or indefinite articles.

This variable was included to determine if the examiner's hypothesis was correct regarding the skill of eight- to nine-year-old subjects using correct reference. Inclusion of this variable would also provide descriptive information regarding use of reference under the two listening conditions studied here.

7. Number of static adjectives. Adjectives counted in this category were those referring to perceptual properties, i.e., shape, color, texture, sound, etc. Flavell (1968) found that, while no significant difference was determined for second grade subjects, eighth grade subjects used more different words when composing messages to blindfolded listeners than to sighted listeners.

The task in the present study, story telling, lends itself to the use of descriptive terms. The number of adjectives used was expected to differ in the manner eight- to nine-year-old subjects determined their listener's role attributes under the two conditions and composed their messages accordingly.

8. Correct versus incorrect sequencing of events (depicted

on the picture cards). Results of Piaget's experiments (1926) indicated that children between the ages of six and seven do not order events correctly in relating information. Lack of order is the rule at these ages but, by ages seven to eight, lack of order is the exception. The children used in the present study were expected to give correctly ordered accounts of their stories under both listener conditions.

9. Number of instances of redundancy. This category included the following:

- a. Instances of complete sentence repetition.
- b. Instances of incomplete sentence repetition.
- c. Instances of paraphrasing a complete or incomplete sentence.

This variable was included because it was expected that one group of subjects would attempt to make its messages more clear through repetitions and/or paraphrasing more frequently than the other group. The examiner did not specify which group was hypothesized to use more instances of redundancy. Logical explanations exist in terms of either group being more redundant.

On the one hand, the group of subjects who could see their listener may have tended to be more redundant because subjects could judge, to a limited extent, the degree of comprehension of their messages by observing facial expressions. If they observed facial expressions that indicated to them poor comprehension, they could repeat or paraphrase parts of their messages in an attempt to improve clarity.

On the other hand, subjects under the listener not visible condition had no means of assessing their listener's comprehension of their messages. Some subjects may have used many instances of redundancy,

even though they were unsure of the necessity, in order to assure themselves that their messages were effective in terms of being appropriately received by their listener.

10. Clarity score. The examiner's subjective assessment of clarity was determined according to the following rating scale:

POOR, 1 point.

Two or more of

- a. Incorrect sequential order.
- b. 50 per cent or fewer of the utterances comprise complete sentences.
- c. Inappropriate use of definite and indefinite articles, i.e., specific reference is used before nonspecific reference to determine a class of objects. *The* dog is used before *a* dog has been introduced from the class of dogs.

AVERAGE, 2 points.

Two or more of

- a. Correct sequential order.
- b. 51-65 per cent of the utterances comprise complete sentences.
- c. Definite and indefinite articles used appropriately.

ABOVE AVERAGE, 3 points.

All of the following:

- a. Correct sequential order.
- b. 66-100 per cent of the utterances comprise complete sentences.
- c. Definite and indefinite articles are used appropriately.
- d. Additional details and description provided (judged by instances of paraphrasing to make information clearer and/or multiple use of adjectives).

The subjective assessment variable to assess clarity was included because it would be technically possible for a child to obtain high scores on measures such as total number of utterances and the number of verifiers and adjectives used, and yet have produced a story that was difficult for a listener to understand. Intrarater reliability was achieved on the clarity scale by repeated scoring by the examiner on every fifth story. Intrarater reliability was computed to be 100 per cent.

Chapter 3

RESULTS AND DISCUSSION

t-ratios were computed for four of the categories described in Chapter 2. The following results were obtained:

Category	Mean listener visible condition	Mean listener not visible condition	Obtained <i>t</i> -ratio	df
1. Total number of utterances	6.833	5.833	.858	22
3. Number of words per complete utterance	10.233	11.717	1.048	22
7. Number of static adjectives	2.333	2.833	.451	22
10. Clarity score	1.750	1.822	.304	22

In order for the differences between the means to be significant at the .05 level of confidence, it would have been necessary that *t* reach a value greater or lesser than 2.074. None of the *t*-ratios was great enough to indicate significant differences. From the data, it appears that the total number of utterances, length of utterance, number of adjectives used, and the degree of clarity were not factors

that significantly influenced the eight- to nine-year-old subjects differently in speaking to their listeners under the two experimental conditions.

Variance between the two groups was consistently greater for the group of subjects who could not see their listeners. The following scores for within-group variance were obtained:

Category	Within-group variance, visible listener	Within-group variance, listener not visible
1. Total number of utterances	7.970	8.333
3. Number of words per complete utterance	8.988	15.060
7. Number of static adjectives	3.157	11.606
10. Clarity score	.386	.515

Although the differences in variance are not significant, the greater variance for speakers who could not see their listeners possibly suggests that *some* subjects in this group were more sensitive to their listener's needs--they spoke in longer utterances and used more descriptive words--while other subjects in the same group did not alter their messages according to their listener's role attributes. In terms of Bates' (1976) pragmatic theory, it can be argued that some of the subjects are more adept at determining the kinds of presuppositional strategies appropriate to their listener.

Variable 2: Ratio of Complete to Incomplete Utterances

For the group with a visible listener, only three subjects used incomplete utterances. In the group that could not see their listener, four subjects used incomplete utterances. The following percentages were obtained.

	Listener visible	Listener not visible
Per cent complete utterances	94.79	93.61
Per cent incomplete utterances	5.20	6.36

Variable 4: Number of Words Per Incomplete Utterance

Because such a small number of incomplete utterances were used, a *t*-ratio was not an appropriate statistic. Fisher's exact probability test was used to determine if the use of incomplete utterance was related to the listener condition. A probability level of .31 was computed, indicating that the listener condition is not related to use of incomplete utterances.

Variable 5: Number of Verifiers Used

None of the subjects in either group used any verifiers for comprehension. The examiner believes that this may be explained by the instructions given to the subjects which state that the adult listener may not say anything or answer any questions during the story telling. It is possible that the subjects used no verifiers because they had been informed that no acknowledgments by their listeners would be allowed.

Variable 6: Correct Versus Incorrect Use of
Definite and Indefinite Articles

Results are identical for both groups. This indicates that the listener condition did not affect appropriate use of reference.

	Listener visible	Listener not visible
Correct use of articles	4	4
Incorrect use of articles	8	8

The sequence stories used in the study were related in that they could be told as one continuous story. The training story told to the subjects by the examiner was about a pet frog who got into trouble in a restaurant. The story ended with a waiter looking for the frog. The picture story given to the subjects showed the same waiter holding the frog, ready to throw him out. A small boy then claims the frog and leaves the restaurant with it.

The adult listener, who left the room before the training story was told, was not familiar with any characters in the story. Of the 16 subjects who used incorrect reference, 13 seemed to presuppose from the start of their stories that reference specific to themselves was also specific to their listener, i.e., they started their stories with, "The waiter," "The man," "The guy," etc., instead of first specifying a waiter. The examiner believes that these subjects presupposed their listener already had the background information as to which waiter they were referring.

Although the majority of subjects in the study did not use correct reference throughout their stories, most subjects used correct reference in parts of their stories. A shift of incorrect to correct use was evident when four subjects corrected themselves on their use of articles. Corrections were always in the form of changing a definite article to an indefinite article, with the exception of Subject 9a. Examples of these self-corrections are noted below. The corrections are italicized. (Complete story transcriptions are found in Appendix B.)

Subject 1a

"(Kay) the man is takin' the frog out of the fancy restaurant . . . and (the) *this* one kid comes up"

Subject 2a

"The waiter was about to throw the frog out and (the family walked) *a* family walked up"

Subject 8a

"(The man) *a* man found the frog."

Subject 9a

"The (the) waiter found the frog and (um a) *the* family was goin' down" In this case the subject changed his correct indefinite reference to an incorrect definite reference. Later in his story, Subject 9a corrected his reference again: ". . . the family was goin' down the hallway (and the) *a* kid interrupted him"

All of the above instances of the speaker self-correcting his specific reference to nonspecific reference occurred under the listener

condition where the subject could not see his listener. The examiner speculates that these speakers were in the process of developing the skill of using definite and indefinite articles appropriately. When they used inappropriate reference, they recognized the error and corrected it; more linguistically immature speakers would not recognize the use of incorrect reference in their speech.

Variable 8: Correct Versus Incorrect
Sequencing of Events

Results were identical for both groups.

	Listener visible	Listener not visible
Correct sequencing of events	7	7
Incorrect sequencing of events	5	5

Piaget's contention that events are ordered correctly by the age of seven to eight is not supported by these data. The experimental task Piaget employed in studying sequencing skills differed from the task used in the present study. In Piaget's investigation, two variations of a story telling task were used. For some subjects an examiner told a story and the subjects' task was to retell it to another child of the same age. For other subjects an examiner told a story and the subjects' task was to first retell the story to the examiner, then they were to retell the story to another child of the same age. Piaget's subjects had heard the stories verbalized in correct order before they told it to their listeners.

The subjects in the present study had to develop their own story, using picture stimuli, then sequence it correctly when they verbalized it to their listener. The examiner argues that the task used in the present study was more difficult than the task presented to Piaget's subjects. The increased task complexity is a possible explanation for some subjects incorrectly ordering events when telling their stories.

Some of the subjects who received an incorrect score for the sequence variable added information to the stories that was not depicted in the pictures. Examples follow:

Subject 3

" . . . so (um) he went around asking other people if he was dumb enough to (um) (to um) find out (the) if the frog was (um) theirs or not."

Subject 5

"So he grabs it and starts walking with his parents."

Subject 2a

". . . so he got to keep him (and) and then the waiter was goin' out (he's going back)(and) the frog got out the fire exit and got away.

The examiner speculates that there are a number of possible explanations for these extra details added to the story. The subjects may have not remembered the pictures and/or their stories and therefore added information to make their stories more exciting. It is also possible that the subjects were merely exercising their imaginations and added information to make their stories more exciting.

Two of the subjects from the visible listener condition took the role of each subject in the story and produced utterances accordingly.

Their stories are reproduced herein.

Subject 5

"Help, I'm hanging upside down."

"What are you doing with that frog?"

"I'm gonna throw him out. He tried to eat a lady's salad."

"Can I have him?"

"No."

So he grabs it and starts walking with his parents.

Subject 9

"(Um--a frog, a frog) a frog that didn't get killed, eh?
Well, we'll just get rid of him."

"Hey--that's my frog."

He goes. "All right, you can have it, but don't come back."

These two subjects delivered their stories in a way that suggests they thought their listener had access to the pictures as they told their stories. It is evident that both speakers presupposed a great deal of their listener, even though both subjects knew the listener had not heard the training story and that she had not seen either set of pictures.

The examiner suggests that the ten subjects who ordered the events of the story incorrectly do not necessarily experience difficulty in ordering in natural speaking situations. The task may have been too complex for some subjects in terms of the auditory and visual memory skills required to successfully complete the task.

Variable 9: Number of Instances
of Redundancy

Only two speakers of the listener visible condition used an instance of redundancy while three speakers of the listener not visible condition did so. Fisher's exact probability test was used to determine if instances of redundancy were related to the listening condition. Probability was computed at .34, indicating that the instances of redundancy are not significantly related to the experimental condition.

These data indicate that speakers who could not see their listener did not attempt to make their messages more clear by repeat- or paraphrasing information any more than speakers who could see their listener. Facial expressions that may have indicated difficulty in listener comprehension were available to the speakers in the listener visible condition and could have provided cues for paraphrasing or repeating information. The data suggest that speakers under this condition did not detect and/or did not respond to these kinds of cues in terms of attempting to make the information more clear to their listeners.

The instances of redundancy that did occur are listed below. The redundancies are italicized.

Subject 1

" . . . he don't want to see the frog again (and) they started to walk away and *they just walked away.*"

Subject 6

" . . . so the lady went to the boss and complained (and) then the waiter was very angry (because he was gonna) well, *the waiter was very angry too* so he (he) went out and he decided to find the frog"

Subject 6a

. . . he said, "Here, take him. See what I care (and) don't you dare come back with that (um) frog (and don't let me see) *don't let me see you again.*

Subject 7a

" . . . these real fancy people walked up (and they) they came up. They were really rich and *they came up* with their son and their daughter. . . ."

Subject 11a

. . . the family was looking very mad at the waiter. They probably didn't know that it was such a fancy restaurant as it was. So the family walked out of the restaurant with *the family looking very mad* and the boy looking very happy.

The redundancies that Subjects 1, 6, 7a, and 11a used were basically repetitions of information they had already stated; they served to emphasize their points. Subject 7a restated his information in order to present the listener with additional information about the family of which he was speaking.

One speaker, Subject 6a, paraphrased his information using different words. " . . . don't you dare come back with that (um) frog . . . " was paraphrased by ". . . don't let me see you again."

Additional Observations

In addition to the descriptive and statistical information obtained from analysis of each of the ten variables, the examiner believes that some other instances that occurred during the investigation should be noted.

Earlier in this chapter the examiner discussed the relationship between the training story and the picture story presented to the subjects to develop and tell to their listener. Only four subjects mentioned the events of the training story to their listener. One subject asked the examiner if he should tell the training story and was told to "Tell her (Elizabeth) everything she needs to know to tell another person later." This subject (Subject 6) then proceeded to tell his listener a detailed account of the events of the training story followed by the story he had developed.

The examiner observed several instances of incorrect pronoun usage, as well as instances where subjects self-corrected their use of personal pronouns. These instances are listed. Appropriate use is included in brackets above the errors. Self-corrections are marked with an asterisk (*).

Subject 3

" . . . he went around asking other people if he was dumb enough" [they were]

Subject 8

" . . . (and then they) ^{*}he says, 'Out.'"

Subject 1a

" . . . this one kid comes up with their mother and father and a sister" [his]

Subject 5a

" . . . this boy goes, 'Hey, I know that frog,' and then

[his] [his] [his]
 their mother and their father and their sister looked at him"

Subject 6a

"(Um) then he took the frog from the plate and (he--she) ^{*} he went
 out"

Subject 7a

" . . . the waiter was really angry gave (him) the little boy ^{*}
 [delete]
 his frog to him"

These errors and self-corrections indicate that the speakers are still in the process of developing their syntactic skills in terms of correct pronoun use. A breakdown of the errors observed indicated that there were four instances of incorrect possessive pronoun usage, one instance of incorrect personal pronoun usage, two instances of personal pronoun correction, and one instance where a pronoun was changed to a noun. In six instances a plural pronoun was changed to a singular or vice versa.

Subject 7a is especially interesting. He self-corrected "him" and used a noun, but later on in the sentence referred back to "him." It is possible that this subject was attempting to make his story more clear to his listener. Instead of using the pronoun "him," Subject 7a clarified his reference to "the little boy." Use of "to him" at the end of the sentence is redundant, but it may have been an attempt to assure himself that his listener knew who had received the frog.

The most interesting observation was the degree of information many subjects presupposed of their listener. This was discussed earlier

in the chapter in Variable 6: Correct Versus Incorrect Use of Definite and Indefinite Articles; however, the author/examiner now expands on these presuppositional strategies.

Many subjects seemed to presuppose a great deal of information from their very first utterance. Subjects 5 and 9 were previously discussed in this regard. Their stories could be compared to a person reading a series of lines from a play. It appeared that these two subjects presupposed that their listener was familiar with the story content as well as the characters. The listener had no way of knowing which character was saying which lines or when one character stopped talking and another began. Subjects 5 and 9 did not appear to be aware that their listener needed a great deal more information in order to understand the stories they told.

Other subjects presupposed their listener had background information. They began their stories in these ways:

Subject 4

"(Um) the (the) guy--he's gonna throw the (the) frog out the fire exit"

Subject 7

"The man finally found the (um the) frog"

Subject 5a

"(The restaurant) the restaurant manager was gonna throw the sneaky frog out of the (the) restaurant"

Subject 6a

"(Um) then he took the frog from the plate"

Subject 12a

"After the argument,"

It is evident that a listener would have several unanswered questions when the above statements are used to start an unfamiliar story.

Many of the speakers did provide information that resulted in relatively clear story accounts. It is possible that these subjects were more mature in their development of appropriate presuppositional strategies and also had reached the stage of development where egocentricity was less evident in their speech.

Chapter 4

CONCLUSIONS

No significant differences were found to exist in the language of eight- to nine-year-old boys relating stories to visible and not visible listeners; however, much descriptive information regarding the strategies these subjects used in relating their stories was obtained.

Many subjects did not use appropriate reference and did not order events sequentially. As discussed earlier, other investigators have determined that these skills should be developed by eight to nine years of age. It is possible that the task was too difficult or that the subjects felt under pressure to perform well. This is possible because, when the examiner went to the classrooms to get the subjects, some classroom teachers told the subjects to "go with the lady for testing." The examiner subsequently reassured the subjects that it was not a test, but it's possible that the subjects still felt that they were under pressure to do well. This pressure may have interfered with some subjects' performances; for others, the pressure may have improved performances.

It should again be noted that the task used was designed in a way that would permit a speaker to deliver the same story to a visible and not visible listener and have it equally understood by both. This was the case for some subjects in this study; the clear, ordered accounts presented to the visible listener would be equally clear to

the listener seated behind the screen and vice versa. This was true since gestures were not used by any subjects. It was also the case that the incorrectly ordered cases where incorrect reference was used, as well as lack of order, would be equally as difficult to understand for a listener under either experimental condition.

Another explanation for results indicating insignificant statistical differences between the two groups also exists. In the experimental setting, the examiner was present while the subjects told their stories to the visible or not visible listener. It is possible that even though the listener was not visible for one group of subjects, the subjects regarded the examiner as a visible listener, even though the examiner was not actively attending to their stories. If this were the case, both groups of subjects would be speaking to what they considered a visible listener and no significant differences would be expected.

Suggestions for Further Research

Other kinds of testing situations could be used to determine the way speakers talk to visible and not visible listeners. Situations designed to allow gestural and pointing responses may result in significant differences under varying conditions. Listener response, in terms of how effective the communication was from a listener's point of view, could also be investigated.

Differences in effective communications could also be assessed in terms of how speakers varied their stories or messages when informed their listener had not understood them. They could be asked to tell their stories again, and differences could be analyzed. Another possibility

would be to play the speakers' stories for them on the tape recorder and then give them the option of changing their messages to make them clearer.

Variations of the kinds of listeners employed would be interesting. Peer listeners, opposite or same sex listeners, or family members could be used to serve as listeners in similarly designed studies. Studies using only imagined listeners could be carried out where the speaker tells his story to a tape recorder believing that it will be played for someone later. Variations could be analyzed in terms of stories told to different kinds of imaginary listeners. For example, subjects could be told their stories would be played for a small child, an adult, a class, etc.

Much more information is necessary in the study of presuppositional strategies and egocentricity in speech. A number of studies using a variety of tasks presented to subjects of different ages with listeners with varying role attributes will be useful in determining information regarding presuppositions and egocentricity in the development of language.

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A P P E N D I X A

Table 1
Listener Visible Condition

Variable	Subject											
	1	2	3	4	5	6	7	8	9	10	11	12
1. Total number of utterances	11	5	6	4	7	13	4	6	4	6	8	8
2. Ratio of complete to incomplete utterances	11/0	5/0	6/0	3/1	7/0	13/0	4/0	6/0	3/1	6/0	7/1	8/0
3. Number of words per complete utterance	9.7	8.4	12.5	16.4	5.5	12.1	10.5	8	7.6	12.1	7.7	12.3
4. Number of words per incomplete utterance	NA	NA	NA	13	NA	NA	NA	NA	7	NA	2	NA
5. Number of verifiers used	0	0	0	0	0	0	0	0	0	0	0	0
6. Correct versus incorrect use of definite and indefinite articles	-	+	+	-	-	+	-	+	-	-	-	-
7. Number of adjectives	2	2	0	3	0	4	4	4	0	1	3	5
8. Correct versus incorrect sequencing of events	+	+	-	-	-	+	-	+	-	+	+	+
9. Number of instances of redundancy	1	0	0	0	0	1	0	0	0	0	0	0
10. Clarity score	2	2	2	1	1	3	1	2	1	2	2	2

Code: NA = not applicable; + = correct; - = incorrect.

Table 2
Listener Not Visible Condition

Variable	Subject											
	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a
1. Total number of utterances	4	10	6	6	4	9	11	3	4	4	7	2
2. Ratio of complete to incomplete utterances	3/1	10/0	5/1	5/1	4/0	9/0	9/2	3/0	4/0	4/0	7/0	2/0
3. Number of words per complete utterance	15	7.3	8.8	12.8	11.5	8.5	8.1	10.3	12	9.2	18.1	19
4. Number of words per incomplete utterance	7	NA	10	6	NA	NA	12.5	NA	NA	NA	NA	NA
5. Number of verifiers used	0	0	0	0	0	0	0	0	0	0	0	0
6. Correct versus incorrect use of definite and indefinite articles	-	-	+	+	-	-	+	+	-	-	-	-
7. Number of adjectives	1	3	2	4	2	2	8	0	1	0	11	0
8. Correct versus incorrect sequencing of events	+	-	+	+	+	-	+	-	-	+	+	-
9. Number of instances of redundancy	0	0	0	0	0	1	1	0	0	0	1	0
10. Clarity score	2	1	2	3	2	1	3	2	1	2	2	1

Code: NA = not applicable; + = correct; - = incorrect.

A P P E N D I X B

Included in this appendix are transcriptions of the stories of each subject. Repetitions, self-corrections, and restarts (which were deleted in analyzing the data), have been placed within parentheses. Ages of all subjects are included, as well as an analysis of the data for all ten variables for each subject,

Subjects with visible listeners (Subjects 1-12) are listed first, followed by subjects who could not see their listener (Subjects 1a-12a). The numbered variables appear below for reference purposes.

1. Total number of utterances.
2. Ratio of complete to incomplete utterances.
3. Number of words per complete utterance.
4. Number of words per incomplete utterance.
5. Number of verifiers used.
6. Correct versus incorrect use of definite and indefinite articles.
7. Number of static adjectives.
8. Correct versus incorrect sequencing of events.
9. Number of instances of redundancy.
10. Clarity score

Note: NA = not applicable.

Subject 1: age 8-5

Visible Condition

The waiter who (who) went out to get the frog was (um) walking around to see if he could find it. He found him and (and) the frog tried to get away, but he grabbed him by his back legs (and) he started to take him (and) he took him out the fire exit (and) outside was (um) the boy who owned the frog's parents (and) the parents were very mad (and um so the man so) the waiter decided he'd give 'em the frog (and he told and) they started to walk away. While they were walking away (um) the waiter told 'em never to come back (and and he and not and) he don't want to see the frog again (and) they started to walk away and they just walked away.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	11
2	11/0
3	9.7
4	NA
5	0
6	Incorrect
7	2
8	Correct
9	1
10	2

Subject 2: age 8-0

Visible Condition

One day (um--or brother) a frog got caught by a waiter. (And and) he went to the fire exit and was gonna throw him out and a boy said, "Hey, that's my frog." (And) he said, "Well, keep 'em outta here" and so they went home happily ever after.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	5
2	5/0
3	8.4
4	NA
5	0
6	Correct
7	2
8	Correct
9	0
10	2

Subject 3: age 8-3

Visible Condition

One day (um) there was a waiter and he (um) found a frog in someone's salad so (um) he went around asking other people if he was dumb enough to (um to um) find out (the) if the frog was (um) theirs or not (and um) when he went to the door to go out he (um) asked this family (and um) their son told him that it was his and he (um) lost it. So the waiter (he) gave it to the boy (and) he sent the family out.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	6
2	6/0
3	12.5
4	NA
5	0
6	Correct
7	0
8	Incorrect
9	0
10	2

Subject 4: age 8-8

Visible Condition

(Um) the (the) guy--he's gonna throw the (the) frog out the fire exit (and then a and) then these people (their) they came over (and) then the boy (they) his parents wanted him to have a frog and stuff. So then the people came and took the frog from the waiter before the waitress threw it out the fire exit. So (um), the waiter was mad because they took the frog.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	4
2	3/1
3	16.4
4	13
5	0
6	Incorrect
7	3
8	Incorrect
9	0
10	1

Subject 5: age 8-7

Visible Condition

"Help, I'm hanging upside down."

"What are you doing with that frog?"

"I'm gonna throw him out. He tried to (he tried to) eat a lady's salad."

"Can I have him?"

"No."

So he grabs it and starts walking with his parents.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	7
2	7/0
3	5.5
4	NA
5	0
6	Incorrect
7	0
8	Incorrect
9	0
10	1

Subject 6: age 8-11

Visible Condition

(This was the only subject who asked the examiner if he should tell the training story.)

(Um) well, one day (there--there) this a frog in a restaurant and he decided to play a very tricky joke on a person (so he was) he took a big leap (and he) there was a waiter walking by (and he um) he jumped into the salad that he was carrying (and and) then when the waiter served the lady that the salad belonged to, the frog peaked out and let (and let) the lady know that he was there. (But) so the lady went to the boss and complained (and) then the waiter was very angry (because he was gonna) well, the waiter was very angry too so he (he) went out and he decided to find the frog (and) he found (found) it and he went out (out) the door and looked around. (And) then there's a family. There was a boy, a girl, a mother, and father. (And) the boy said that that was his frog that the waiter was holding; so the waiter gave (gave) the frog to the boy (and) then he (didn't) told (told) the boy not to bring the frog back.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	13
2	13/0
3	12.1
4	NA
5	0
6	Correct
7	4
8	Correct
9	1
10	3

Subject 7: age 9-1

Visible Condition

The man finally found the (um the) frog and he took him out the fire exit (and then um and then he um and then) there's a little boy and his family outside of the (um) fire exit (and so they so um he he um) he cried, "That's my frog" (and um) he said (um) "You better get outta here with that stinky frog."

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	4
2	4/0
3	10.5
4	NA
5	0
6	Incorrect
7	4
8	Incorrect
9	0
10	1

Subject 8: age 9-1

Visible Condition

(Um) a man catches a frog and he's about to throw him out the fire exit. Then here (here) comes a bunch of people and a little boy. He says that's his frog and then (and then they) he says, "Out." (And) then (there there) the frog is happy, not sad like he was. (And) they're just leaving.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	6
2	6/0
3	8
4	NA
5	0
6	Correct
7	4
8	Correct
9	0
10	2

Subject 9: age 8-1

Visible Condition

"(Um--a frog, a frog) a frog that didn't get killed, eh? Well, we'll just get rid of him."

"Hey--that's my frog."

He goes. "All right, you can have it, but don't come back."

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	4
2	3/1
3	7.6
4	7
5	0
6	Incorrect
7	0
8	Incorrect
9	0
10	2

Subject 10: age 9-0

Visible Condition

(Well, this man) the waiter in this restaurant caught (caught) a frog and he was ready to throw it out the fire exit (and) before he could throw it the boy walked up with his family and said, "That's my frog. Give it back to me. He got away from me." So (so) he got the frog back. (And) on his way home the waiter yelled at the boy and said, "Never bring that frog (back to the store) back to this restaurant again."

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	6
2	6/0
3	12.1
4	NA
5	0
6	Incorrect
7	3
8	Correct
9	0
10	2

Subject 11: age 8-11

Visible Condition

Well--this (um) guy (he was tryin'--he was gonna--) he was just about to open the door and throw the frog out (and he um) then this family came around--four people. (And) the little boy said, "Hey--that's my frog." (And) then (um) he took him. When they were (when they were) walking away (the) that one waitress guy, he said, "Hey, bring him back. He's a bad frog." That's all.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	8
2	7/1
3	7.7
4	2
5	0
6	Incorrect
7	3
8	Correct
9	0
10	2

Subject 12: age 8-11

Visible Condition

When the waiter found the frog in another person's salad, he grabbed him and he was walking over to the fire exit to throw him out (out). (When the) when this family came along (and he he) the family saw the waiter (with--with) holding the frog by his hind legs upside down (and the) the dad of the family, he said, "That's cruelty to animals." (And) then the mother said, "Yes, that is." (And) the sister said, "Well, I don't know; I don't like frogs." The boy said, "Can I have the frog, Pop?" (And) the father goes, "Yes, you can have him." So the little boy took him away.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	8
2	8/0
3	12.3
4	NA
5	0
6	Incorrect
7	5
8	Correct
9	0
10	2

Subject 1a: age 8-10

Not Visible Condition

(Kay) the man is takin' the frog out of the fancy restaurant (and he and this) and (the) this one kid comes up with their mother and father and a sister (and) tells the guy that it's his frog (and) then the guy gives the frog to the kid (and) then he tells 'em to get out of the restaurant.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	4
2	3/1
3	15
4	7
5	0
6	Incorrect
7	1
8	Correct
9	0
10	2

Subject 2a: age 9-0

Not Visible Condition

The waiter was about to throw the frog out and (the family walked) a family walked up. The little boy said, "What are you gonna do with the frog?" (And the) the man said, "Throw him out." (And) the little boy said, "Well, I'll have him." (And) his dad said, "No." (And) his mom said, "Yes." Sister said, "Yes," too. (And) so he got to keep him (and) then the waiter was goin' out (he's goin' back) (and) the frog got out the fire exit and got away.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	10
2	10/0
3	7.3
4	NA
5	0
6	Incorrect
7	3
8	Incorrect
9	0
10	1

Subject 3a: age 8-11

Not Visible Condition

(Um) this man he caught a frog and (um) he got out a fire escape door (and) in a minute a family walking out to eat (and um) a small boy says, "My frog!" (and um) the waiter said, "It's just a frog" (and then um um) the father looked at the frog and said "That's my boy's frog." (And) they took it home.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	6
2	5/1
3	7.8
4	10
5	0
6	Correct
7	2
8	Correct
9	0
10	2

Subject 4a: age 8-7

Not Visible Condition

(There was a frog) there was a frog in a restaurant that wasn't supposed to be there. A very nice restaurant was it. The butler started to throw the frog out the door (and) when he started to throw the frog out the door a little boy said, "May I please have that frog?" (and) the butler said, "Then be gone with it." (And) the little boy and the frog were very happy and they went home.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	6
2	5/1
3	12.8
4	6
5	0
6	Correct
7	4
8	Correct
9	0
10	3

Subject 5a: age 8-6

Not Visible Condition

(The restaurant) the restaurant manager was gonna throw the sneaky frog out of the (the) restaurant (and then these people) and this boy goes, "Hey, I know that frog," (and) then their mother and their father and their sister looked at him like he was crazy (and) then they went home (and) he had the frog.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	4
2	4/0
3	11.5
4	NA
5	0
6	Incorrect
7	2
8	Correct
9	0
10	2

Subject 6a: age 9-2

Not Visible Condition

(Um) then he took the frog from the plate and (he--she) he went out the fire exit (and) he said, "I think I'll dump this frog in the lake." Then he saw this little boy with a family and the boy said, "Hey, what are ya gonna do with that frog? I want him for a pet." So he said, "Here, take him. See what I care (and) don't you dare come back with that (um) frog (and don't let me see) don't let me see you again."

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	9
2	9/0
3	8.5
4	NA
5	0
6	Incorrect
7	2
8	Incorrect
9	1
10	1

Subject 7a: age 9-1

Not Visible Condition

(Kay) there's this really (really) mean waiter and it was in this fancy restaurant (and) you see he found a frog in that restaurant (and) so he took him out the fire exit and was about to throw him away when (this) these real fancy people walked up (and they) they came up. They were really rich (and) they came up with their son and their daughter (and) then son said ("That hey--that what are ya) hey man, what are you doing with my frog?" (and) the waiter was really angry gave (him) the little boy his frog to him (and) then he shouted at the family (and) then they went home in disgust. (And) that's all.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	11
2	9/2
3	8.1
4	12.8
5	0
6	Correct
7	8
8	Correct
9	1
10	3

Subject 8a: age 8-10

Not Visible Condition

(The man) a man found the frog. Then (a kid) some people walk in and a kid says, "Hey, can I have that frog?" (and) then he says, "Yes, but I don't want it around here."

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	3
2	3/0
3	10.3
4	NA
5	0
6	Correct
7	0
8	Incorrect
9	0
10	2

Subject 9a: age 8-10

Not Visible Condition

The (the) waiter found the frog and (um a) the family was goin' down the hallway (and the--a) a kid interrupted him when he was goin' down the hall (and) he said, "That's my frog" (and) when he took it away (the) his mother and his father got kinda mad at the (they got kinda mad at the) waiter so they left.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	4
2	4/0
3	12
4	NA
5	0
6	Incorrect
7	1
8	Incorrect
9	0
10	1

Subject 10a: age 8-6

Not Visible Condition

(Um) the waiter found the frog and he was about to throw it out when a family comes in. (And) the family takes the frog (and um they um) they take it (and) then they (um) walk out the door and carry the frog with.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	4
2	4/0
3	9.2
4	NA
5	0
6	Incorrect
7	0
8	Correct
9	0
10	2

Subject 11a: age 8-6

Not Visible Condition

In the first picture (um) the waiter had found the frog in a fancy restaurant that hopped into the lady's salad and was takin' him out the fire exit. In the second picture he was just about to take them out into the fire exit (where a family--when a) when a family, a brother and a sister and a mon and dad, came walking up (and) a little boy said, "That's my frog" (and) the waiter was looking very puzzled says, "Well (if you want your frog back, you-- I'm not gonna let alone) if you want your frog back you better go outta this restaurant because we don't allow pets in here. (And and) the family was looking very mad at the waiter. They probably didn't know that it was such a fancy restaurant as it was. So the family walked out of the restaurant with the family looking very mad and the boy looking very happy.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	7
2	7/0
3	18.1
4	NA
5	0
6	Incorrect
7	11
8	Correct
9	1
10	2

Subject 12a: age 8-9

Not Visible Condition

After the argument, a waiter took the frog out the door and ran into the people who owned the frog. The kid who owned the frog took the frog away from the waiter and (and) took it back home.

<u>VARIABLE</u>	<u>ANALYSIS</u>
1	2
2	2/0
3	19
4	NA
5	0
6	Incorrect
7	0
8	Incorrect
9	0
10	1