SPEECH OF MOTHERS AND NURSERY SCHOOL TEACHERS ASSEMBLED WITH HIGH AND LOW-LINGUISTIC-LEVEL NORMAL CHILDREN

by

MARTHA JEAN RIEDL

B. S., Kansas State University, 1971

A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

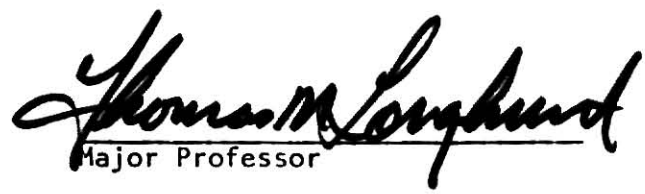
MASTER OF ARTS

Department of Speech

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1972

Approved by:



Major Professor

To Amy Jean,

my preschool child

THIS BOOK CONTAINS NUMEROUS PAGES WITH THE ORIGINAL PRINTING BEING SKEWED DIFFERENTLY FROM THE TOP OF THE PAGE TO THE BOTTOM.

THIS IS AS RECEIVED FROM THE CUSTOMER.

ACKNOWLEDGMENTS

I wish to express a special thanks to Dr. Thomas M. Longhurst, whose guidance and encouragement as major professor has been tremendously appreciated. A significant acknowledgment is also made to the other members of the thesis committee: Prof. Bruce C. Flanagan, Head of the Division of Speech Pathology and Audiology; Prof. Norma D. Bunton, Head of the Department of Speech; and Prof. Leo F. Engler, Head of the Division of Linguistics.

The personnel at the University's Child Development Center, the preschool mothers, and their children deserve many thanks for participating as subjects in the experiment, as do my colleagues Susan Cannon and Joe Reichle for their assistance with the present research.

To Linda Den and Galen Berry a special appreciation is extended for their countless hours spent in preparing the protocols for data analysis.

For their assistance in tabulating data, I am deeply grateful to the members of my family, Don Watson, Mr. and Mrs. Don Riedl, Mrs. Ted Riedl, Mrs. Elmer Holopirek, Mrs. F. L. Watson, Mrs. Joe Watson, and to Mrs. Robert Sawatzky.

For statistical advice I am indebted to Dr. Arthur Dayton of the K. S. U. Statistics Department.

An extra special appreciation is extended to Mrs. Dennis Holt for her household and childcare assistance during the preparation of the thesis.

For their faithful support, assistance in tabulating data, and childcare I am deeply indebted to my parents-in-law, Mr. and Mrs. George Riedl, and especially to my parents, Mr. and Mrs. Gene Watson, whose unfailing interest

and guidance have been primarily responsible for my educational achievement.

Finally, for sacrificing to assist in every facet of this thesis, for being a loving father and faithful companion, I will be forever appreciative of my husband, Jay Dee.

TABLE OF CONTENTS

LIST OF TABLES

The process of language development in the preschool child has received a vast amount of attention during the past decade, due primarily to the linguistic theories of Noam Chomsky (1957, 1965). Though recent researchers (Brown and Fraser, 1964; Miller and Ervin, 1964; Menyuk, 1964; Chomsky, 1969; and Bloom, 1971) have provided a description of the child's language as it develops from two-word utterances to adult-like language, not much has been done to describe the child's linguistic environment and its effects upon his language development.

Whether there is a causal relationship between the features of adult language addressed to the child, both semantic and syntactic, and his subsequent language development seems to be a matter of controversy. Chomsky (1967) discounted the notion of a causal relationship by claiming that adult language is interrupted by broken sentences, extraneous words and phrases, and inappropriate segmentation, and, thus, would not serve as a model for syntactic development. McNeill (1966, 1968) proposed that the child cannot possibly master the entire adult corpus of language with which he is bombarded without an innate understanding of language universals and, thus, also disclaims any cause-effect relationship. Somewhat misleading, however, is the fact that most authors claiming a minimal effect of environmental adult language upon child language development have based their arguments upon observations of speech used by adults in conversation with other adults. An exception was the work of Bullowa (cited in Bever et al., 1965), who found, after analyzing six 30-minute tapes of conversation by three mothers with their children aged 6-30 months,

that only 258 of 432 utterances were fully grammatical and that, of these, only 46 were simple, declarative sentences.

On the other hand, there is also evidence to suggest that adult speech addressed to children is simple and grammatical. Research by Braine (1963), Brown and Bellugi (1964), Brown and Fraser (1964), Granowsky and Krossner (1970), Phillips (1970), and Broen (1971) suggest that adults in conversation with children use language of lesser syntactic and semantic complexity than they use in conversation with other adults, and further, that an increase in complexity of adult language varies directly with the age of the child addressed. These authors utilized such quantitative or syntactic measures as talking rate, mean length of response (MLR), and sentence type, as well as the qualitative or semantic measure of type-token ratio (TTR).

If it is true that adults tend to differentially reduce and simplify the quantity and quality of their language when speaking to young children of different ages, might the same type of modification be found when adults converse with a child of low language ability as opposed to an equal-aged child with relatively high language ability? Spradlin and Rosenberg (1964) reported differential vocabulary diversity (TTR) when speech of adults was directed to retarded children of low verbal ability as compared to retarded children with higher-level language. Siegel (1963) in a series of studies of adult interaction with institutionalized retarded children of high and low language abilities, found that adults differentially used greater MLR's, higher TTR's, and more responses when conversing with high-level children than when conversing with relatively low-level children.

If such is the case in communication with retarded children, would adults similarly tend to simplify their language when communicating with normal

children? Naturally, the most influential adult figures in the young child's verbal environment are his parents and teachers. Granowsky and Krossner (1970) conducted a study of seven kindergarten teachers' language addressed to their five and six-year-old students and to adults. All of the teachers greatly simplified their adult-adult language, both in quantity and in quality, when talking to their students.

If, in fact, kindergarten teachers do tend to "talk down" to their students, do they make a further differentiation when speaking to high-language-level versus relatively low-language-level normal children? If such a phenomenon exists, how much earlier is it initiated in the child's verbal environment? Does his nursery school teacher tend to simplify her language to an even greater extent than the kindergarten teacher? Since the child's mother has lived with him throughout his entire period of language development, does she tend to speak to him in a more or less sophisticated way than his teacher does? A study by Hess et al. (1967) revealed that middle-class mothers used an MLR of 11.39 when talking to their four-year-old children. When this is compared to the MLR of 8.2 found by Granowsky and Krossner (1970) for kindergarten teachers, it would indicate that perhaps mothers do, in fact, provide a richer verbal environment. Would this be true of mothers of both high- and low-language-level children?

The purpose of the current study was many faceted. The experimenter attempted to find evidence to answer the following questions: 1) If nursery school teachers simplify their language addressed to their three and four-year-old students, do they differentially modify their language level when talking to a child judged as low in language ability as opposed to a child judged as high? 2) Do the mothers of these children modify their language

addressed to the children to the same, greater, or lesser extent than do the nursery school teachers? 3) Is there a difference in the quantity and quality of the language of mothers of high-language-level children as compared to the language of mothers of relatively low-language-level children of the same age?

Hopefully, the answers to these questions will enhance previous hypotheses concerning a possible causal relationship between the child's verbal environment and his subsequent language development. Perhaps they can also provide further implications for therapists, parents, and teachers in furthering optimal language development in children at all levels.

METHOD

Subjects

Eight children, six males and two females, selected from a class of sixteen children from a university nursery school, their mothers, and their four nursery school teachers served as subjects. All subjects were middle socioeconomic status as determined by family-head income, and all spoke English as their native language. The children's ages ranged from 3.3 to 5.1 years, with a mean age of 4.3 years. No attempt was made to control for the children's birth order, age of the mothers, or age or experience of the teachers. One of the teachers was an experienced nursery school teacher, and three were student teachers who had taught in the classroom for three months to a year before the experiment began.

Half of the children were ranked as highest in the class in language ability, and half were ranked lowest by their four teachers prior to the study. The teachers' rankings, following a short training session conducted by the experimenter, were based upon expressive language such as general talkative-

ness, intelligibility, sentence structure, and vocabulary, as well as receptive language such as ability to follow simple instructions, understanding of concepts of color, shape, and time, and ability to readily identify objects. To further assess the language differences between the two groups of children, each child was administered a Peabody Picture Vocabulary Test and a Templin-Darley Test of Articulation. The results of these tests are shown in Table 1.

Table 1

Pre-experimental linguistic abilities of the two groups of children

Source	High-level Children	Low-level Children	Variation
Peabody Picture Vocabulary Test			
Raw score	57	47	10
Percentile	84	68	16
Mental age	6-5	4-10	1-7
Verbal IQ	122	108	14
Templin-Darley Test of Articulation			
Raw score	38.2	33.0	5.2
Mean age norm	34.5	34.5	0.0
Difference	+3.7	-1.5	5.2

The age range for the high group was 3.3 to 5.1 years, with a mean of 4.3 years, and the age range for the low group was 3.5 to 4.9 years, with a mean of 4.2 years. The two female subjects were 3.3 and 3.5 years of age respectively,

one in the high-language-ability group and the other in the low-language-ability group. The remaining three subjects in both language ability groups were males. No further attempt was made to control for possible sex effects, as a study by Bee et al. (1968) which examined speech directed to children by mothers of different social classes revealed that in no instance was sex of child a significant main effect.

Experimental facility

Sessions were conducted in a small, quiet room equipped with a table, two chairs, and a microphone. The experimenter watched each session through a one-way vision mirror and provided verbal instructions from an adjacent room, which also housed a tape recorder (TEAC, TCA40) and monitoring equipment.

Experimental design

A high child and a low child were randomly assigned to each teacher and each child was assigned to his own mother. Mothers and teachers were mailed some preliminary instructions prior to the experiment (Appendix A). The experiment was conducted over a three-week period, with each mother-child pair and each teacher-child pair interacting in one session each week. All sessions were scheduled during the morning in an attempt to minimize possible effects due to fatigue or inattentiveness in the children. Each teacher interacted with her high child and her low child in consecutive 20-minute sessions. Half of them interacted with their high child first and half with their low child first each week in order to minimize possible order effects. If a teacher interacted with her high child first the first week, she interacted with her low child first the second week. Since each child participated with both his mother and teacher, half of the children interacted with their teachers first

each week, also in attempt to minimize possible order effects.

In an attempt to minimize anxiety the adults were not instructed that their own speech was being scrutinized, rather they were told that the experimenter was interested in the children's language development.

Experimental tasks and stimulus materials

1. Free talk. This task was designed to reproduce a conversation which might occur at home or in nursery school between a child and an adult. The subjects were asked to talk about anything they would like while the experimenter presumably readied her equipment. There were no stimulus objects in the experimental room, and the child was asked not to bring any toys with him. After five minutes of conversation, the experimenter instructed the subjects to begin either a guessing game or a storybook. The order of these two tasks was counterbalanced to guard against possible order effects.

2. or 3. Guessing game. This task was designed to reproduce a conversation between a child and an adult in which the adult described something for the child or gave him instructions and the child necessarily was to behave in a specific way depending on the instructions. The subjects were given one of six looseleaf notebooks containing a number of pages of abstract stimulus designs (Longhurst, 1972). One design out of six on each page was designated as the "key design." The adult was instructed to talk about that design in an imaginative way, without looking at it or pointing to it, so that the child could guess which design matched the description. The child was instructed by the adult to wait until she was finished talking about the design and then to point to the one he thought was described. The adult was instructed to be vaguely approving and not tell the child he was wrong even if he made an incorrect

choice. No child saw any one booklet of designs twice, nor did any teacher or mother, as there were six separate booklets. The pages were randomized so that a different design was designated the "key design" on a given page of each booklet. Therefore, no child heard any one design described more than once nor did any teacher describe any one design more than once during the six sessions in which the teachers participated. The experimenter scored each answer from the adjacent room and, after five minutes, instructed the subjects to put the book away even if they had not finished all the pages of designs.

2. or 3. Storybook. This task was designed to reproduce a conversation between a child and an adult in which the adult told the child a story using sequential pictures as stimuli. The subjects were given one of six storybooks from the Little Golden Book series (No. 471, 504, 569, 582, 585, and 596), in which the experimenter had blocked out all the words. Since there were six different books, no child, teacher, or mother saw any one of them more than once throughout the experimental sessions in which they participated. The adult was instructed to tell the story and discuss the pictures with the child. At the end of five minutes the experimenter instructed the subjects to put the book away, regardless of whether or not they had finished the story.

4. Free talk. During the last five minutes of each 20-minute session the subjects engaged in another conversational situation identical to the first task of the session. At the end of five minutes the experimenter entered the experimental room and terminated the session.

Protocol preparation and segmentation

At the conclusion of all the sessions a trained typist made a verbatim, typewritten transcription of both the adult's and child's speech from the tape

recordings according to previously established procedures, which were a modification of those employed by Siegel (1963), (Appendix B). Then the experimenter segmented the corpora into manageable units of language, or utterances, according to a modification of another of Siegel's (1963) procedures, (Appendix C). Pauses were employed as utterance boundaries although they didn't always correspond to the end of grammatical sentences. Segmenting at sentence boundaries requires knowledge of context, word meaning and intonation contours, while segmenting at pauses does not, as the pause is simply a break in the physical, acoustical flow of speech (Broen, 1971). The experimenter felt that preschool children may be more likely to perceive a physical break in the flow of speech than a change in intonation contour or word meaning. Thus, since the relationship between length of adult utterance and child language level was under scrutiny, the pause seemed the most logical segmentation cue.

While listening to the tape recordings for segmentation, the experimenter also corrected errors in the typist's transcription. Then another typist retyped the last seventy-five utterances produced by the adult in each of the four tasks during all sessions. These utterances were subsequently subjected to linguistic analysis. Reliability for protocol preparation and segmentation was established by having the experimenter retype a tape recording of one session and having an experienced graduate student resegment this protocol.

Linguistic analysis

Seven linguistic analyses were computed from the final protocols for each task of every session. These included: 1) mean length of utterance, 2) Carroll type-token ratio, 3) percentage of common words used, 4) percentage of utterances which were interrogatives, 5) percentage of interrogatives which demanded simply a yes-no answer, 6) percentage of interrogatives which demanded

more information from the child, and 7) percentage of interrogatives which demanded clarification of the child's preceding utterance.

The mean length of a subject's utterances (MLU) has long been used as a measure of language development (see review, Shriner, 1969). MLU was computed following the procedures of Templin (1957) as modified by Johnson, Darley and Spriestersbach (1963).

Type-token ratio (TTR), a relationship between types (the number of unique words in a given sample), and tokens (the total number of words in the sample) has long been used as a measure of vocabulary diversity. Carroll (1964) has formulated a TTR which is approximately independent of sample size. The formula for the Carroll type-token ratio (CTTR) is expressed, CTTR = types/ $\sqrt{2 \times \text{tokens}}$. This latter statistic was chosen for the present experiment because different sample sizes in words were expected. The total number of words and number of unique words in a sample were counted according to criteria described in Appendices D and E.

The percentage of common words used was computed by comparing the unique words in each sample with the original Thorndike-Lorge count of the first thousand most frequently used words (1944) and computing the percentage of the unique words in each sample which appeared on the list. This measure was intended as an index of "ordinariness" of vocabulary. The number of unique words which appeared on the Thorndike-Lorge list was counted according to criteria described in Appendix F.

The percentage of utterances which were interrogatives was chosen as a measure of the adult's verbal interaction with the child since the adult's question demanded an answer from the child. Utterances were classified as interrogatives by the experimenter at the time of segmentation of the utter-

ances according to procedures described in Appendix G.

The percentage of interrogatives which demanded simply a yes-no answer from the child was intended as a measure of the adult's questioning behavior which may not be particularly conducive to language enrichment in the child since these questions require minimal language from him.

The percentage of interrogatives which demanded information from the child was intended as a measure of the adult's questioning behavior which may be more conducive to language enrichment in the child, as such questions require the child to reply with more than simply a yes or no answer.

The percentage of interrogatives which demanded clarification of the child's preceding utterance was chosen as a measure of effective communication between adult and child. A high percentage of this type of interrogatives would indicate that the adult had trouble interpreting the child's language and, thus, that communication between the two was not particularly effective.

To establish interscorer reliability for the various linguistic analyses, an experienced graduate student retabulated a protocol for one session.

Statistical analysis

The data were analyzed in three separate analyses according to treatment groupings. The first was a three-way Analysis of Variance (4x3x4) in which the main effects were: 1) treatment (mothers interacting with high children vs. teachers with high children vs. teachers with low children vs. mothers with low children), 2) session (1, 2, or 3), and 3) task (Free Talk I, Guessing Game, Storybook, or Free Talk II). Significant differences from this Analysis of Variance were further analyzed using a two-sample t test (Fisher's Least Significant Difference [LSD]), (Winer, 1962).

The second analysis was another three-way Analysis of Variance (2x3x4) in

which the first main effect of treatment paired only mothers interacting with high children vs. mothers interacting with low children. The second and third main effects were identical to those in the first analysis, and significant differences were again further analyzed using a two-sample t test.

A third three-way Analysis of Variance (4x3x4) compared differences in session and task means when the teachers interacted with the high and low children. This analysis was computed only to facilitate further analysis. To actually analyze the differences in means obtained when the teachers interacted with high children as opposed to low children the mean square errors obtained for each linguistic measure in the third Analysis of Variance were used in a one-sample t test (Winer, 1962).

RESULTS

Reliability

A graduate student, experienced in protocol segmentation, resegmented a transcription of one session that had been previously segmented by the experimenter. The number of segments in Free Talk I, Free Talk II, Storybook task, and seven descriptions of ambiguous designs in the guessing game was compared and the correlation coefficient was .97. The graduate student also recounted the number of words, number of unique words, and the number of unique words on the Thorndike-Lorge list of 1000 most common words. Correlation coefficients for these word counts ranged between .92 and .98. The same graduate student recategorized the segments from the same protocol as total questions, yes-no questions, information questions, and clarification questions. Interscorer correlation coefficients for question categorization ranged from .84 to .96. Since reliability for counting words had already been established, the experi-

menter retyped and counted words in a protocol that had been previously typed to establish reliability for protocol typing. The word counts from the original and retyped protocols were compared and the correlation coefficient for protocol typing was .90.

Children's guessing game scores

Scores obtained by the children on the Guessing Game task as their mothers described ambiguous designs indicated, as hypothesized, that the high-level children scored higher than the low-level children. Also, as shown in Table 2, the children scored higher when interacting with their own mothers than with their nursery school teachers. This difference is primarily due to

Table 2

Mean scores obtained by children on guessing game task.

	With Mothers	With Teachers	Mean Score
High-level Children	72%	52%	62%
Low-level Children	49%	48%	48%
Total Children	60%	50%	55%

the widespread difference in the mean scores of the high-linguistic-level children interacting with their mothers as opposed to their teachers, for the mean scores of the low-level children did not differ a great deal between interactions with mothers and teachers. Children of high language ability scored much higher than children of low language ability when they interacted with their own mothers, while there was very little difference in the scores of the two groups when they interacted with their teachers.

Linguistic analyses

Mother-Teacher Data. An Analysis of Variance (Table 3) revealed no significant differences on any of the linguistic measures among the language of mothers and teachers, mothers of high-level children and mothers of low-level children, or teachers interacting with high-level children and teachers interacting with low-level children. The same statistical analysis also revealed no significant differences on any of the measures among the first, second, or third sessions, although significant differences among the four tasks were obtained for all the linguistic measures except MLU.

Table 4 shows a further analysis of the significant differences among the four tasks using Fisher's LSD procedure. Application of the LSD showed that the adult language patterns across all linguistic measures did not significantly differ between Free Talk I and Free Talk II tasks. The adults' Carroll type-token ratios were significantly lower during the Guessing Game than during the Free Talk or Storybook tasks. The mean percentage of words used by the mothers and teachers, which appeared on the Thorndike-Lorge list of 1000 most common words was significantly greater in the Free Talk tasks than in the Storybook task.

Both the percentage of total utterances which were questions and the percentage of questions which demanded information from the child were significantly lower during the Guessing Game than during Free Talk or Storybook tasks. In contrast, mothers and teachers used a significantly greater percentage of questions which demanded a simple yes-no answer during the Guessing Game task. Questions which demanded clarification of the child's previous utterance were of significantly greater proportion during Free Talk conversation than during Guessing Game or Storybook interaction. During the Storybook task, means sug-

Table 3

Analysis of variance of the effects of treatment (Teachers and mothers interacting with high and low children), session, and task on the various linguistic measures.

Source	df	Mean Squares						
		MLU	CTTR	Common Words	Questions			
					Yes-No	Information	Clarification	Total
Treatment	3	3.458	0.744	53.757	320.171	970.357	181.011	3610.521
Error (a)	12	4.791	1.428	32.943	492.686	456.499	525.817	1843.961
Session	2	0.674	0.233	6.116	88.829	121.147	203.338	27.836
Treatment X Session	6	0.377	0.329*	15.696	190.160	199.584	47.776	52.427
Error (b)	24	0.606	0.108	11.382	202.066	154.134	124.411	94.339
Task	3	0.610	10.091*	37.153*	8941.273*	7619.633*	2136.207*	7222.812*
Treatment X Task	9	0.795	0.354	7.971	179.369	244.654	144.200	198.925
Session X Task	6	0.338	0.082	5.308	76.473	41.115	20.397	193.904
Treatment X Session X Task	18	0.308	0.104	8.508	111.371	100.981	123.745	74.257
Error (c)	108	0.445	0.187	9.782	191.647	159.109	90.094	105.897

* Indicates mean squares which are significant at the .05 level of significance.

Table 4

Differences among tasks on the various linguistic measures when mother and teacher means were combined.

MLU	Storybook	Guessing Game	Free Talk II	Free Talk I	*
	5.525	5.408	5.334	5.261	
CTTR	Free Talk I	Free Talk II	Storybook	Guessing Game	
	5.578	5.514	5.409	4.594	
% Common Words	Free Talk II	Free Talk I	Guessing Game	Storybook	
	84.307	83.941	83.050	82.358	
% Yes-No Questions	Guessing Game	Free Talk I	Free Talk II	Storybook	
	71.861	49.576	49.464	39.606	
% Information Questions	Storybook	Free Talk I	Free Talk II	Guessing Game	
	47.625	27.882	26.989	17.670	
% Clarification Questions	Free Talk I	Free Talk II	Storybook	Guessing Game	
	23.435	22.654	12.769	10.468	
% Questions	Free Talk I	Free Talk II	Storybook	Guessing Game	
	49.813	48.457	46.444	23.861	

* Means sharing a common line are not significantly different from each other.

gested that adults used a significantly high proportion of questions which demanded information from the child and a significantly low proportion of questions which demanded a simple yes-no answer.

Mother Data. When an analysis of variance and Fisher LSD were applied only to the mothers' language data (Tables 5 and 6), the results were identical to those obtained on the analysis of mothers and teachers together (Tables 3 and 4). No significant differences were found between the language of mothers of high children and that of mothers of low children, and, similarly, no significant differences were found between the three sessions. As in the first analysis (Tables 3 and 4), significant differences among tasks appeared on all

Table 5

Analysis of variance of the effects of treatment (Mothers interacting with high children and mothers interacting with low children), session, and task on the various linguistic measures.

Source	df	Mean Squares						
		MLU	CTTR	Common Words	Questions			
					Yes-No	Information	Clarification	Total
Treatment	1	5.088	0.595	8.010	89.273	445.091	135.693	142.083
Error (a)	6	4.972	1.340	36.405	452.439	302.943	524.517	860.418
Session	2	0.718	0.204	22.204	135.299	472.647	104.886	16.335
Treatment X Session	2	0.616	0.266	1.584	33.564	52.191	116.626	32.655
Error (b)	12	0.317	0.141	10.595	270.710	156.851	133.916	78.848
Task	3	0.733	5.207*	35.669*	3994.841*	4362.477*	805.736*	2875.129*
Treatment X Task	3	1.206	0.735*	13.300	357.495	467.967	170.272	330.981*
Session X Task	6	0.499	0.115	4.737	78.824	89.628	105.043	113.677
Treatment X Session X Task	6	0.107	0.209	6.035	92.802	107.288	97.404	51.714
Error (c)	54	0.600	0.175	8.909	252.060	186.995	116.406	117.826

* Indicates mean squares which are significant at the .05 level of significance.

Table 6

Differences among tasks on means of the various linguistic measures of mothers interacting with high and low-level children.

MLU	Storybook	Guessing Game	Free Talk I	Free Talk II
	5.384	5.353	5.076	5.055 *
CTTR	Free Talk I	Free Talk II	Storybook	Guessing Game
	5.659	5.592	5.497	4.661
% Common Words	Free Talk II	Free Talk I	Guessing Game	Storybook
	83.713	83.708	82.386	81.175
% Yes-No Questions	Guessing Game	Free Talk II	Free Talk I	Storybook
	68.059	48.964	48.136	36.968
% Information Questions	Storybook	Free Talk II	Free Talk I	Guessing Game
	52.379	31.916	29.396	20.478
% Clarification Questions	Free Talk I	Free Talk II	Guessing Game	Storybook
	22.468	19.120	11.463	10.653
% Total Questions	Free Talk I	Storybook	Free Talk II	Guessing Game
	41.293	39.998	39.940	18.555

* Means sharing a common line are not significantly different from each other.

measures except MLU.

Teacher Data. Although differences were evidenced among the language patterns of the four teachers on an Analysis of Variance, the present experiment was primarily interested in the variation within each teacher's language as she interacted with high and low-level children. Thus, the results of this Analysis of Variance are not presented; however, the error terms were used in a one-sample t test calculation. This t test analyzed differences of means in the teachers' interaction with high and low children over the four tasks (Table 7).

Table 7

Mean differences of teacher-high child interaction and teacher-low child interaction on the various linguistic measures over tasks.

	Free Talk I	Guessing Game	Storybook	Free Talk II
MLU	0.288	0.102	0.070	-0.533*
CTTR	-0.014	0.172	0.451*	-0.063
Common words	-0.022	-0.013	-0.023	-0.008
Questions				
Yes-No	-0.047	-0.028	0.039	-0.009
Information	0.106*	0.018	-0.019	-0.018
Clarification	-0.060	0.009	-0.020	0.027
Total	0.011	-0.052	-0.103	-0.078*

* Indicates differences which were significant at the .05 level of significance. The formula used to calculate the confidence intervals was:

$$C.I. = \pm t_{.025(df)} \frac{\sqrt{MS\ error}}{n} \pm \text{mean difference},$$

where

n = number of observations in the tested mean.

Note: Positive values indicate higher means for teacher-high child interaction. Negative values indicate higher means for teacher-low child interaction.

It revealed that during Free Talk I the teachers' mean scores on measures of CTTR, common words, yes-no questions, and clarification questions were higher when they interacted with low-language-level children. In contrast, scores on measures of MLU, information questions and total questions were higher when teachers interacted with high-level children. Only the mean difference in information questions was significant at the .05 level of significance.

During Free Talk II the teachers' mean scores were smaller in sessions with high children than with low children on all measures except questions of clarification. However, only the mean differences for MLU and total questions were significant at the .05 level.

Analysis of Guessing Game mean differences revealed that the teachers used more common words, yes-no questions, and total questions and less information and clarification questions when interacting with high-level children. Their mean MLU's and CTTR's were higher during sessions with low-level children. However, none of these findings was significant at the .05 level.

Storybook task means for MLU, CTTR, and yes-no questions were greater when the teachers interacted with children of high language ability. On the other hand, means for number of common words, information questions, clarification questions, and total questions were greater when the teachers interacted with low children. Mean differences for CTTR and total questions were the only measures significant at the .05 level.

A one-sample t test analyzed differences in the teachers' language over the three sessions as they interacted with high versus low-linguistic-level children (Table 8). In the first session the teachers tended to use higher CTTR's, more common words, and more questions seeking information or clarification when interacting with high children. In contrast, the teachers used

Table 8

Mean differences of teacher-high child interaction and teacher-low child interaction on the various linguistic measures over sessions.

	Session 1	Session 2	Session 3
MLU	-0.128	-0.016	0.090
CTTR	0.273	-0.137	0.274
Common words	0.002	-0.018	-0.035*
Questions			
Yes-no	-0.022	-0.017	0.006
Information	0.013	0.034	0.018
Clarification	0.009	-0.017	-0.025
Total	-0.094*	-0.017	-0.056

* Indicates differences which were significant at the .05 level of significance. The formula used to calculate the confidence intervals was:

$$C.I. = \pm .025(df) \sqrt{\frac{MS\ error}{n}} \pm \text{mean difference},$$

where

n = number of observations in the tested mean.

Note: Positive values indicate higher means for teacher-high child interaction. Negative values indicate higher means for teacher-low child interaction.

greater MLU's and more total questions and yes-no questions when talking to low children. Again, the greater number of total questions directed to the low children was the only difference which was significant at the .05 level of significance.

In the second session higher means for all the measures except information questions were found when the teachers interacted with their low-level children, although none of these mean differences were significant at the .05 level.

Analysis of the third session revealed that the teachers' language with high children demonstrated more yes-no and information questions, greater MLU's, and greater CTTR's, while their language with low children exhibited more total questions and clarification questions as well as more common words. Only the common words measure was significant at the .05 level.

In summary, teachers tended to use more questions and more common words in their speech to low-linguistic-level children, while they tended to use significantly more questions seeking information from the child and greater CTTR's when interacting with high-linguistic-level children.

DISCUSSION

The present experiment did not reveal any differences in the quantity or quality of language when mothers and teachers were compared. This statistical comparison was confounded by the fact that, while there were eight separate mothers, there were only four separate teachers. Therefore, the means of the teachers, when interacting with high and low children, were correlated, and this factor tended to reduce the probability of finding a significant difference. Thus, future experiments may well reveal significant differences between mothers

and teachers in their language patterns if this confoundment in the present investigation is corrected.

Lack of significant differences in the language patterns of mothers of high children as compared to those of mothers of low children could be explained in a similar manner. Because the mothers of high children and the mothers of low children were two separate groups of individuals, their individual differences may have camouflaged any significant differences in language directed to high children as opposed to low children. On the other hand, perhaps there actually were no differences in the language patterns of mothers of high children and mothers of low children.

Children performed better in Guessing Game interaction with their mothers than with their teachers. Perhaps the mothers were more familiar with the vocabulary level of their children and therefore were better prepared to describe the ambiguous designs for the children. If so, perhaps nursery school teachers should make a greater effort to assess each child's vocabulary in order that they might communicate more effectively with him in everyday preschool activities.

The differences in the language patterns of the adults over the different tasks were interesting to note. The fact that there were no significant differences among tasks on mean length of utterance is, perhaps, not surprising, as former research (Shriner, 1969) has indicated that it is a fairly constant measure. Also not surprising is that Free Talk I didn't differ significantly from Free Talk II on any linguistic measure. After all, the two tasks were identical except for separation of a few moments. This finding may suggest that in the future only one Free Talk segment is needed in each session to validly analyze conversation between two subjects.

The Guessing Game appeared to elicit several distinctive trends in adult language which were not apparent in the other tasks. Type-token ratios were significantly lower when the subjects interacted in the Guessing Game, perhaps because the adults were purposely repeating themselves so that the children could score correctly more often. Broen (1971) found no significant task differences on type-token ratios between tasks analogous to Storybook and Free Talk in the present experiment although her analysis did not include a guessing game task. Another distinctive feature of the Guessing Game appeared in the adults' use of questions. They tended to use fewer questions, as did adults in Siegel's (1963) studies, fewer questions seeking information from the child, and a greater percentage of yes-no questions in the Guessing Game than they did in the other tasks. Perhaps these findings were due to the purpose of the Guessing Game task, which was for the adult to provide information for the child rather than engage the child in conversation. Bee et al. (1968) also reported a large proportion of questions that did not require much of an answer in an interaction task similar to the Guessing Game.

Conversations between the adults and children in Free Talk revealed adult language patterns that were significantly different from those in the other tasks. Teachers and mothers asked the children more questions for the purpose of clarification, perhaps because the children, themselves, initiated more of the discourse in Free Talk than in the other tasks where they tended to merely respond to the adults' questions. The language of the adults during Free Talk also included more common, ordinary words, perhaps because they didn't have available the unique visual stimuli about which to talk that they had in the Storybook and Guessing Game tasks.

During unstructured conditions such as Free Talk, the adults tended to

ask the children more questions, yet they actually bombarded them with questions to the point that the children had less opportunity to talk than they had when they were asked fewer questions. The teachers also tended to ask more questions of the low-language-level children than of the high-language-level children. Did they perhaps not allow the low children to talk as much as the high children? Perhaps they did not, as most of their questions directed to the low children merely required a 'yes' or 'no' answer, while more of their questions of high children were of the information seeking type. The language of the teachers in their interactions with the low-level children was also of lesser semantic quality, as they used more common words and more redundancies, as evidenced by their lower CTTR's with low children.

This evidence raises the question of whether such simplification of adult language is necessary for effective communication with low-language children, whether it is designed to teach children language, or whether it is actually limiting and may, in fact, serve to perpetuate the child's low linguistic level. Brown and Bellugi (1964) and Miller and Ervin (1964) have reported that children already have a rudimentary mastery of the language at the age of three. If it were true that language had to be taught in a systematic fashion to children beyond age three, simplification of adult language addressed to children would be justified. However, Chomsky (1959) has stated that children pick up language in complex ways through merely listening to adult conversation and watching television rather than being systematically taught language by the adults in their environments.

The present as well as previous research has indicated that adults do simplify when they talk to children. Granowsky and Krossner's (1970) study of the language of kindergarten teachers addressed to their five and six-year-old

students is a prime example. Results indicated that teachers greatly simplified their adult-adult speech when speaking to their students. In conversing with the children their average MLU was 8.2 words and mean CTTR was 5.06. This compares with the present experiment in which the average MLU was approximately 5.4 words and mean CTTR was approximately 5.30. In contrast, Miller (1951) reported that the MLU for an average child at age five was five words and that for a superior child of the same age MLU approached ten words. Similarly, Brown and Bellugi (1964) claimed that a very verbal three-year-old could generate 10-11 word sentences. Blodgett (1968), in a study of middle and upper-middle-class four-year-olds, reported that their mean CTTR was 5.19 while discussing pictures with an adult. Therefore, it seems that both the mothers and teachers in the present experiment were not providing as rich a language environment as might have been conducive to optimal language development in their preschool children, particularly in those children of low-level-language skill.

This observation should have some import not only for mothers and teachers but also for those whose profession it is to provide for optimal language development in children. Rather than simplifying his utterances to the child's level or below, perhaps the speech and language clinician should concentrate on producing utterances of greater length, himself, making his own vocabulary more diverse and less ordinary, asking the child fewer questions, particularly fewer questions of the yes-no variety, and allowing him more opportunity to initiate conversation and thereby to transform deep structure into surface structure.

REFERENCES

Bee, H. L.; VanEgeren, L. F.; Streissguth, A. P.; Nyman, B. A.; and Leckie, M. S. Social class differences in maternal teaching strategies and speech patterns. Developmental Psychology, 1969, 1, 726-734.

Bever, T.; Fodor, J.; and Weksel, W. Theoretical notes on the acquisition of syntax: A critique of 'contextual generalization.' Psychological Review, 1965, 72, 467-482.

Blodgett, S. Language behavior as a function of social class. Unpublished manuscript, Vassar College, 1968.

Bloom, L. Why not pivot grammar? Journal of Speech and Hearing Disorders, 1971, 36, 40-50.

Braine, M. On learning the grammatical order of words. Psychological Review, 1963, 70, 323-348.

Broen, P. A discussion of the linguistic environment of the young language learning child. Paper presented at the annual convention of the American Speech and Hearing Association, Chicago, Illinois, November, 1971.

Brown, R., and Bellugi, U. Three processes in the child's acquisition of syntax. Harvard Educational Review, 1964, 34, 133-151.

Brown, R., and Fraser, C. The acquisition of syntax. In U. Bellugi and R. Brown (Eds.), The acquisition of language. Monographs of the Society for Research in Child Development, 1964, 29, 43-79.

Carroll, J. B. Language and thought. New York: Prentice-Hall, Inc., 1964.

Chomsky, C. S. The acquisition of syntax in children from 5 to 10. Massachusetts: M.I.T. Press, 1969.

Chomsky, N. Aspects of the theory of syntax. Massachusetts: M.I.T. Press, 1965.

_____. The formal nature of language. In E. H. Lenneberg, Biological foundations of language. New York: John Wiley, 1967.

_____. Syntactic structures. The Hague: Mouton and Co., 1957.

Dunn, L. M. Peabody picture vocabulary test. Circle Pines, Minnesota: American Guidance Service, 1959.

Granowsky, S., and Krossner, W. J. Kindergarten teachers as models for children's speech. Journal of Experimental Education, 1970, 38, 23-28.

Johnson, W.; Darley, F.; and Spriestersbach, D. Diagnostic methods in speech pathology. New York: Harper & Row, 1963, 160-200.

Longhurst, T. M. Assessing and increasing descriptive communication skills in retarded children. Parsons Research Center, Working Paper No. 262, 1972.

McNeill, D. Developmental psycholinguistics. In F. Smith and G. A. Miller (Eds.), The genesis of language. Massachusetts: M.I.T. Press, 1966.

_____. On theories of language acquisition. In T. R. Dixon and D. L. Horton (Eds.), Verbal behavior and general behavior theory. New Jersey: Prentice Hall, Inc., 1968.

Menyuk, P. Syntactic rules used by children from preschool through the first grade. Child Development, 1964, 35, 533-546.

Miller, G. Language and communication. New York: McGraw-Hill, 1951.

Miller, W. and Ervin, S. The development of grammar in child language. In U. Bellugi and R. Brown (Eds.), The acquisition of language. Monographs of the Society for Research in Child Development, 1964, 29, 9-34.

Olim, E.; Hess, R.; and Shipman, V. Role of mother's language styles in mediating their preschool children's cognitive development. School Review, 1967, 75, 414-424.

Phillips, J. R. Formal characteristics of speech which mothers address to their young children. Unpublished doctoral dissertation, Johns Hopkins University, 1971.

Shriner, T. H. A review of mean length of response as a measure of expressive language development in children. Journal of Speech and Hearing Disorders, 1969, 34, 61-38.

Siegel, G. M. Adult verbal behavior in 'play therapy' sessions with retarded children. Journal of Speech and Hearing Disorders, Mono. 10, 1963, 34-38.

_____. Appendices H. and I. Journal of Speech and Hearing Disorders, Mono. 10, 1963, 100-103.

_____. Verbal behavior of adults in two conditions with institutionalized retarded children. Journal of Speech and Hearing Disorders, Mono. 10, 1963, 39-46.

_____. Verbal behavior of retarded children assembled with pre-instructed adults. Journal of Speech and Hearing Disorders, Mono. 10, 1963, 47-53.

Spradlin, J. and Rosenberg, S. Complexity of adult verbal behavior in a dyadic situation with retarded children. Journal of Abnormal and Social Psychology, 1964, 68, 694-698.

Templin, M. C. Certain language skills in children. Minneapolis: University of Minnesota Press, 1957.

_____, and Darley, F. L. The Templin-Darley tests of articulation. Bureau of Educational Research and Service, State University of Iowa, 1960.

Thorndike, E., and Lorge, I. The teacher's word book of 30,000 words. New York: Bureau of Publications, Teacher's College, Columbia University, 1944, 270-273.

Winer, B. J. Statistical principles in experimental design. New York: McGraw-Hill, 1962.

APPENDICES

KANSAS STATE UNIVERSITY *Manhattan, Kansas 66502*

DEPARTMENT OF SPEECH
EISENHOWER HALL

October 13, 1971

Dear

This letter concerns further information regarding my research study of language acquisition in which you have agreed to participate.

We would hope that the data obtained from this and future similar studies would be of benefit not only to the speech pathologist but also to the preschool teacher and even to the parent, regarding interaction variables contributing to language development in the preschool child. Therefore, we want to make every effort to similate the nursery school environment for teacher-child interaction and that of the natural home for mother-child interaction. Thus, your major responsibility as a subject in the study is to "Be Yourself" and deal with each child exactly as you would at the nursery school in his various learning situations. Hopefully this should be a rewarding experience for both of you.

Enclosed is a brief description of the two structured tasks in which you will be helping two children in a 20-minute session each on three separate days. You will be interacting with the same two children in two separate consecutive sessions on each day. If you have any further questions, feel free to ask about them before the experimental session begins.

You will be involved in six sessions, each with only one child for twenty minutes. Please come to the Speech Clinic waiting room, Room 23, in the basement of Eisenhower Hall each time. You will be met there and escorted to our language acquisition lab for the experimental session. If your first session is at 9:00 A.M., the child will meet you at the speech clinic waiting room. If your first session is at 10:00 A.M., however, we would like for you to bring the child who is scheduled for that time, with you. You and your "second child" may return to the nursery school together. A student in speech pathology will escort thechildren scheduled for 9:30 and 10:30 to the clinic and return the children scheduled for 9:00 and 10:00 to the nursery school so that they will miss only 30 minutes of your scheduled activities there.

Your scheduled sessions are as follows: (hope they will not in convenience you or the other teachers in your planning of activities.)

1. _____
   _____
2. _____
   _____
3. _____
   _____

I certainly appreciate your cooperation and hope this can be a learning experience for everyone concerned. If you have further questions or comments, please feel free to call me at home anytime.

Sincerely,

Marty Riedl

Mrs. Jay (Marty) Riedl
R.R. 2
North Crest #1, Lot 5
776-6460

Thomas M. Longhurst, Ph.D.
Major Professor

KANSAS STATE UNIVERSITY *Manhattan, Kansas 66502*

DEPARTMENT OF SPEECH
EISENHOWER HALL

Dear

This letter concerns further information regarding my research study of language acquisition in which you and _____ have agreed to participate.

We would hope that data obtained from this study and other similar projects to be conducted in the future would be of benefit not only to the speech pathologist but also to the preschool teacher and even to the parent, regarding interaction variables contributing to language development in the preschool child. Therefore, we want to make every effort to similate the natural home environment for mother-child interaction and that of the nursery school for teacher-child interaction. Thus, your major responsibility as a subject in the study is to "Be Yourself" and deal with your child exactly as you would at home in your everyday activities. Hopefully, this should be a rewarding experience for both of you.

Enclosed is a brief description of the two structured tasks in which you will be helping your child at each of the three 20-minute sessions. If you have any further questions, feel free to ask about them before the experimental session begins.

The following are your scheduled meeting times. Please come to the Speech Clinic waiting room, Room 23, in the basement of Eisenhower Hall each time, you will be met there and escorted to our language acquisition lab for the experimental session.

1. _____
2. _____
3. _____

Mrs. Bailey will have a schedule of teacher-child interaction sessions, which will take place on Monday or Wednesday morning for each child during the three weeks. He will be brought to and returned from the speech clinic by either a nursery school teacher or a speech pathology student. Your child will not miss the same 30-minute period of nursery school on any of the three days, in order not to interfer with his learning activities there.

If he is scheduled for a session with his teacher at 9 o'clock A.M. on a school day, perhaps it would be easier for you to bring him directly to Room 23, Eisenhower Hall, rather than to nursery school. The nursery school teacher or a student escort will return him to nursery school at the end of the session at 9:30. The school day on which you may plan to bring your child directly to the speech clinic for a 9:00 A.M. session with his teacher is _____.

ILLEGIBLE

THE FOLLOWING DOCUMENT (S) IS ILLEGIBLE DUE TO THE PRINTING ON THE ORIGINAL BEING CUT OFF

ILLEGIBLE

If you have a younger child at home, please do not hire a babysitter in order to participate in the study. Bring him along, as there will be a speech pathology student there to entertain him while we are recording.

I certainly appreciate your cooperation and hope that this can be a learning experience for everyone concerned. If you have further questions or comments, please feel free to call me at home anytime.

Sincerely,

Marty Riedl

Mrs. Jay (Marty) Riedl
R.R. 2
North Crest Ct. #1, Lot 5
776-6460

Thomas M. Longhurst

Thomas M. Longhurst, Ph.D.
Major Professor

APPENDIX B

Instructions for Typing Protocols

Tape recordings have been obtained for a series of experimental sessions, each session involving an adult and a child. Each tape includes two sessions, one on each side. You will have to do an accurate job of representing all the verbal activity that took place within each session. This is extremely important since all subsequent analyses will depend upon your transcriptions.

1. Differentiate verbalizations of the adult from those of the child by placing the adult's speech on the lefthand side of the page and the child's speech on the righthand side, staggering them as the conversation proceeds.
2. Do not use capitals (except for proper names or for the pronoun 'I'), commas, question marks, or any other form of punctuation in preparing the transcripts. You will use apostrophes, however, to indicate contractions or possession.
3. Some of the remarks made by either the child or the adult will be completely or partially incomprehensible. This may be because the speaker was particularly softspoken, mumbled, had unintelligible speech, or because some noise obscured what he was saying. If an utterance is either partially or completely incomprehensible, exclude it from the transcript.
4. Interjections such as 'uh' or 'er' should be omitted except when they are used as meaningful words.

5. Include unfinished words only if you are sure what they were meant to be.
6. Type numbers uttered by the speakers as if they were written out.
7. Include repeated words in the transcript.

APPENDIX C

Criteria for Segmentation of Utterances

1. In general, an utterance is a unit of spoken language marked off on both sides by a pause.
2. An utterance is considered when one speaker terminates and the other begins speaking.
3. An utterance may include several grammatical sentences. If one simple remark is immediately followed by another with no pause for breath, they are considered only one utterance.
4. An utterance may be a single word such as 'yes' or 'uh huh' or it may comprise many words such as, 'see that bicycle out there that's a big one isn't it.'
5. A single expression of affirmation ('yeah,' 'uh huh'), or of negation ('nope,' 'huh uh'), or of interrogation ('huh,' 'what') may be a complete utterance.
6. Expressions such as 'aw,' 'aah,' 'hmm,' 'uh,' when they are not used as either affirmation, negation, interrogation, or exclamation, do not count as utterances and should be omitted from the transcripts.

APPENDIX D

Criteria for Counting Total Number of Words in a Sample

1. Hyphenated words and compound nouns which seem to function as single words are counted as one word.
2. Contractions are counted as one word.
3. Combinations such as 'gonna,' 'wanta,' and 'oughta' are counted as two words ('going to,' 'want to,' 'ought to').
4. When the speaker is counting or spelling, each unit (number or letter) is counted as a separate word.
5. Numbers are counted as if they were written out; for example: 4,688 is counted as seven words; 70 is counted as one word.
6. Expressions of affirmation ('yeah,' 'uh huh,' 'mhmm,' 'yep'), of negation ('nope,' 'huh uh,' 'hmmn'), of interrogation ('huh,' 'hmm'), or of exclamation ('mmm,' 'hmm,' 'oh,' 'hey,' 'ah,' 'wopps,' 'wow') are counted as one word.
7. All repeated words are counted.
8. Descriptive noises such as 'meow,' 'grr,' or 'bow-wow' are counted as single words.
9. Proper names ('John Brown,' 'Miss Smith') are counted as single words.

APPENDIX E

Criteria for Counting Number of Unique Words in a Sample

Follow the same criteria used for counting the total number of words, with the following additions:

1. Words such as 'em' and 'cause' are counted as their whole counterparts, 'them' and 'because.'
2. Words which end with different inflections (plural, past tense, etc.) are counted as unique words although their root words may be the same.

APPENDIX F

Criteria for Counting the Number of Words Which Appear on the Thorndike-Lorge List of 1000 Most Common Words

1. If the root of the word appears on the list, variations of it which are inflected for number or tense are counted, unless the variation is an irregular form.
2. Hyphenated words are counted if each part of the word appears on the list.
3. Contractions are counted if both of the words which comprise the contraction appear on the list.

APPENDIX G

Criteria for Classifying Utterances as Questions

1. An utterance which begins with a particular interrogative word such as 'what,' 'which,' 'where,' 'who,' 'when,' or 'how' followed by an auxillary or modal is classified as a question.
2. An utterance which is otherwise in the form of a statement but ends in a rising inflection is classified as a question.
3. If the utterance begins as a question but ends as a statement, it is classified as a question. Example: 'would you like me to here let me help you with that.'
4. If the utterance begins as a statement but ends as a question, it is classified as a question. Example: 'I think I can do you think it would be alright.'

APPENDIX H

TABLES OF MEANS

Table 1

Treatment Means

	Mothers/High	Teachers/High	Teachers/Low	Mothers/Low
MLU	5.45	5.54	5.56	4.99
CTTR	5.27	5.26	5.13	5.43
% Common Words	83.03	83.24	84.92	82.46
% Yes-No Questions	51.50	54.18	55.27	49.57
% Information Questions	31.39	27.63	25.46	35.70
% Clarification Questions	17.11	18.20	19.28	14.74
% Total Questions	36.16	46.56	52.12	33.73

Table 2

Session Means

	Session 1	Session 2	Session 3
MLU	5.50	5.35	5.30
CTTR	5.30	5.20	5.32
% Common Words	83.42	83.72	83.10
% Yes-No Questions	53.32	53.29	51.27
% Information Questions	28.65	31.40	30.07
% Clarification Questions	18.03	15.31	18.66
% Total Questions	41.70	42.90	41.82

Table 3

Task Means

	Free Talk I	Guessing Game	Storybook	Free Talk II
MLU	5.26	5.41	5.53	5.33
CTTR	5.58	4.59	5.41	5.51
% Common Words	83.94	83.05	82.36	84.31
% Yes-No Questions	49.58	71.86	39.61	49.46
% Information Questions	26.99	17.67	47.62	27.88
% Clarification Questions	23.44	10.47	12.77	22.65
% Total Questions	49.81	23.86	46.44	48.46

SPEECH OF MOTHERS AND NURSERY SCHOOL TEACHERS ASSEMBLED WITH HIGH AND LOW-LINGUISTIC-LEVEL NORMAL CHILDREN

by

MARTHA JEAN RIEDL

B. S., Kansas State University, 1971

AN ABSTRACT OF A MASTER'S THESIS

submitted in partial fulfillment of the

requirements for the degree

MASTER OF ARTS

Department of Speech

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1972

The purpose of the present experiment was to investigate the adult verbal environment of the preschool child in relationship to his level of language development. Answers were sought for several hypothetical questions: 1) Does the language of preschool teachers differ from that of mothers when interacting with nursery school children? 2) Does the language of mothers of high-linguistic-level children differ from the language of mothers of low-linguistic-level children? 3) Do nursery school teachers differentially modify their language when interacting with high-linguistic-level children as opposed to low-linguistic-level children? 4) Is the language of adults when interacting with children influenced by a repetition of experimental sessions? 5) Does the language of adults differ when interacting with children in different types of tasks?

In order to research the preceding questions, the experimenter arranged for eight children, half of them ranked as lowest in language skills and half of them ranked as highest in language skills, to interact with their own mothers and their nursery school teachers. Each child participated in three 20-minute experimental sessions with his own mother and in three identical sessions with one of his nursery school teachers. Each of the four nursery school teachers interacted with a high-linguistic-level child in three sessions and with a low-linguistic-level child in three sessions. Each session was divided into four 5-minute tasks: 1) Free talk, which was simply a conversation between the adult and child; 2) Guessing game, which required that the adult communicate a message to the child in order that the child might respond in a specific manner; 3) Storybook, which was a discussion between the adult and the child about a book of sequential pictures; and 4) Free talk, another conversation between the adult and child.

Results indicated that any differences between the language of preschool mothers and teachers were not significant and also that there were no significant differences between the language of mothers of high-linguistic-level children and that of mothers of low-linguistic-level children. However, preschool teachers did significantly modify their language when interacting with a child of high language skill as opposed to a child of low language skill. Their differentiation was primarily related to the use of questions. No significant differences were observed in the adults' language over the three experimental sessions; however, their language did significantly change as a function of the type of interaction task in which they were involved.

Therefore, the results of the present experiment suggest that differences in the linguistic ability of preschool children may not be correlated with differences in their mothers' language patterns and that the language of preschool teachers is apparently no different from that of mothers. However, the data does indicate that preschool teachers take into account the linguistic level of the child with whom they are conversing, as they modify their language patterns accordingly. While there appears to be no change in adult-child interaction patterns over a period of three sessions, these patterns do differ depending upon the interaction task.