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ABSTRACT

A sociolinguistic investigation of pupil interpretations of the functions of questions and responses was applied to 165 pupils in a multiethnic, lower socioeconomic status elementary school. Procedures involved videotaping of language arts lessons and family conversations. Videotapes were played back to pupils, who were then asked to explain "What reasons people had for saying these things." Pupils reported that responses made to questions occuring in family conversation served an informative function, but that the questions asked in a classroom situation served an instructional or routinely interactive function. There were no significant ethnic differences in pupil perceptions of the function of questions; there were, however, significant differences in teachers' use of questions, which appeared to relate to classroom differences in final reading achievement. (LH)

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Why Do You Ask?

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Background

After many years of studies of verbal interaction in the classroom, one might assume that we know all we need to know about classroom questions. We know, for example, that classroom dialogue is asymmetrical, with teachers contributing two-thirds of the language on the average (Flanders, 1970). We know that the question-answer sequence is the most basic pattern of classroom dialogue (Bellack, 1966; Sinclair & Coulthard, 1974) and that it is a pattern that has been found to be stable over fifty years (Hoetker & Ahlbrandt, 1969) and across different countries (Bellack, 1973). We know from research on teacher effectiveness that direct instruction is an effective strategy for teaching basic skills to lower grades, and that the use of factual questions is one important characteristic of the direct instruction method (Rosenshine, 1977; Berliner & Rosenshine, 1976).

We have been told that the question-answer pattern carries different meanings for pupils from different cultural backgrounds (Philips, 1972; Dumont, 1972; Boggs, 1972). We know that teachers characteristically use questions that are not genuine requests for information, but are "test questions" (Labov, 1970), or "pseudo questions" (Barnes, 1969). We also know that the rules of classroom dialogue are quite distinct from those of conversation between social equals (Stubbs, 1976) and that they may act to inhibit children's use of language, by setting up a social situation in which children play a passive role, giving short answers to discrete questions, and seldom initiating discussion themselves (Flanders 1970).

We know that the child as speaker has strong effects on the teacher's attitudes and judgments (Williams,1972; Shamo, 1970; Hammersley, 1974; Wight, 1971, 1975; Leiter, 1974; Mehan, 1974; McDermott, 1974). We know a great deal about the kind of language the child as listener hears in the

classroom (e.g., Woods, 1975; Bellack, 1966; Sinclair & Coulthard, 1974). But we know very little about how the child as listener interprets the language of the classroom. What we do know has been largely inferred from a comparison of the child's behavior in school and in other settings (e.g., Houston, 1970; Philips, 1972; Boggs, 1972; Dumont, 1972). The point has been strongly made by sociolinguists that the individual's interpretation of the social stituation must be considered if we are to understand the verbal behavior we observe (Hymes, 1972; Stubbs, 1976). This paper reports on a year-long study of pupils' and teachers' perceptions of classroom discourse, and focuses on one interesting aspect of the study, which has to do with pupil interpretations of the functions of questions and responses in lessons.

The Problem Under Investigation

The study is one of eight sociolinguistic studies funded by the National Institute of Education, to examine the general problem of causes and effects of inadequate learning of the rules and processes of classroom discourse. The general paradigm that has been used to guide this study is presented in Figure 1. In this model the child's perceptions of discourse at home and at school and his/her participation in classroom discourse are seen as intervening variables between family language factors, or classroom language factors, and eventual success in school. The lines indicate the types of relationships we are examining in the total study. The double lines indicate the relationships to be discussed in this paper.

Each of the boxes in this model represents a set of variables. In this paper only the variables associated with question-response patterns will be considered. Figure 2 identifies these variables in more detail.

FIGURE 1

A General Paradigm for Analysis of Participant Perspectives of Classroom Discourse

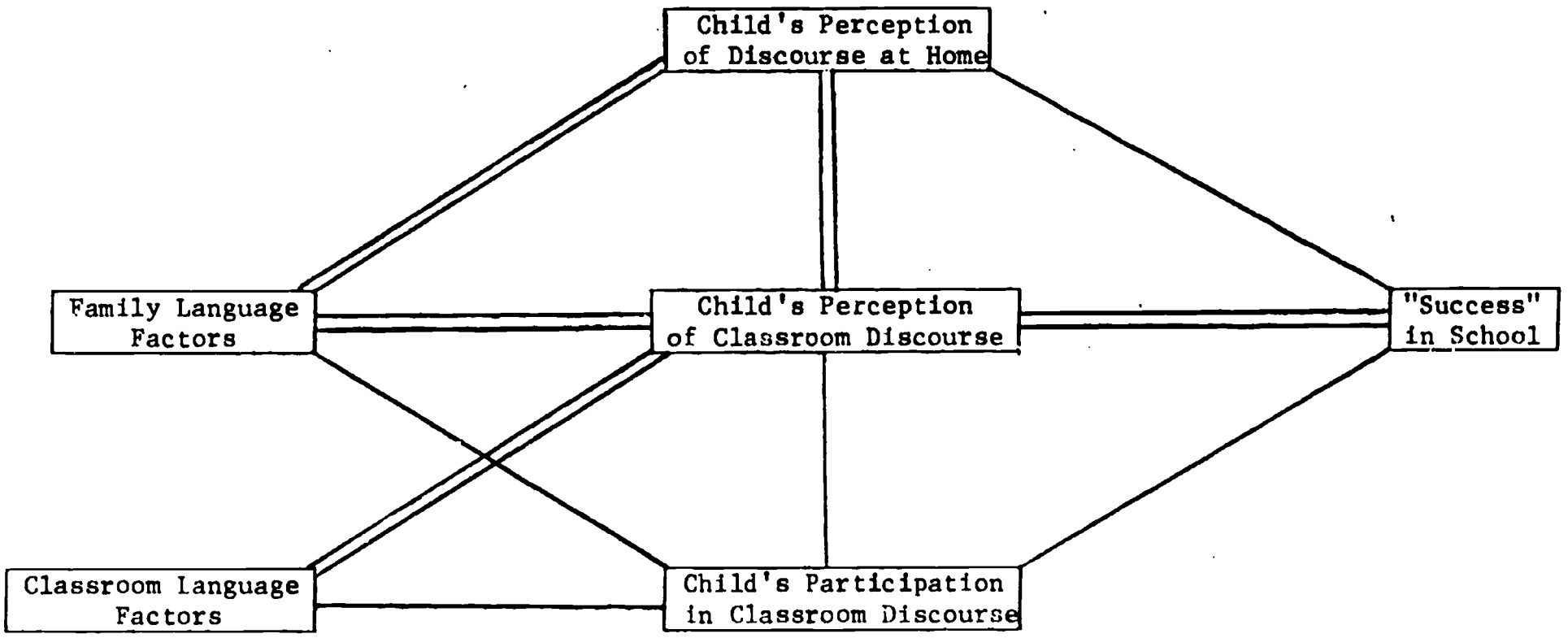
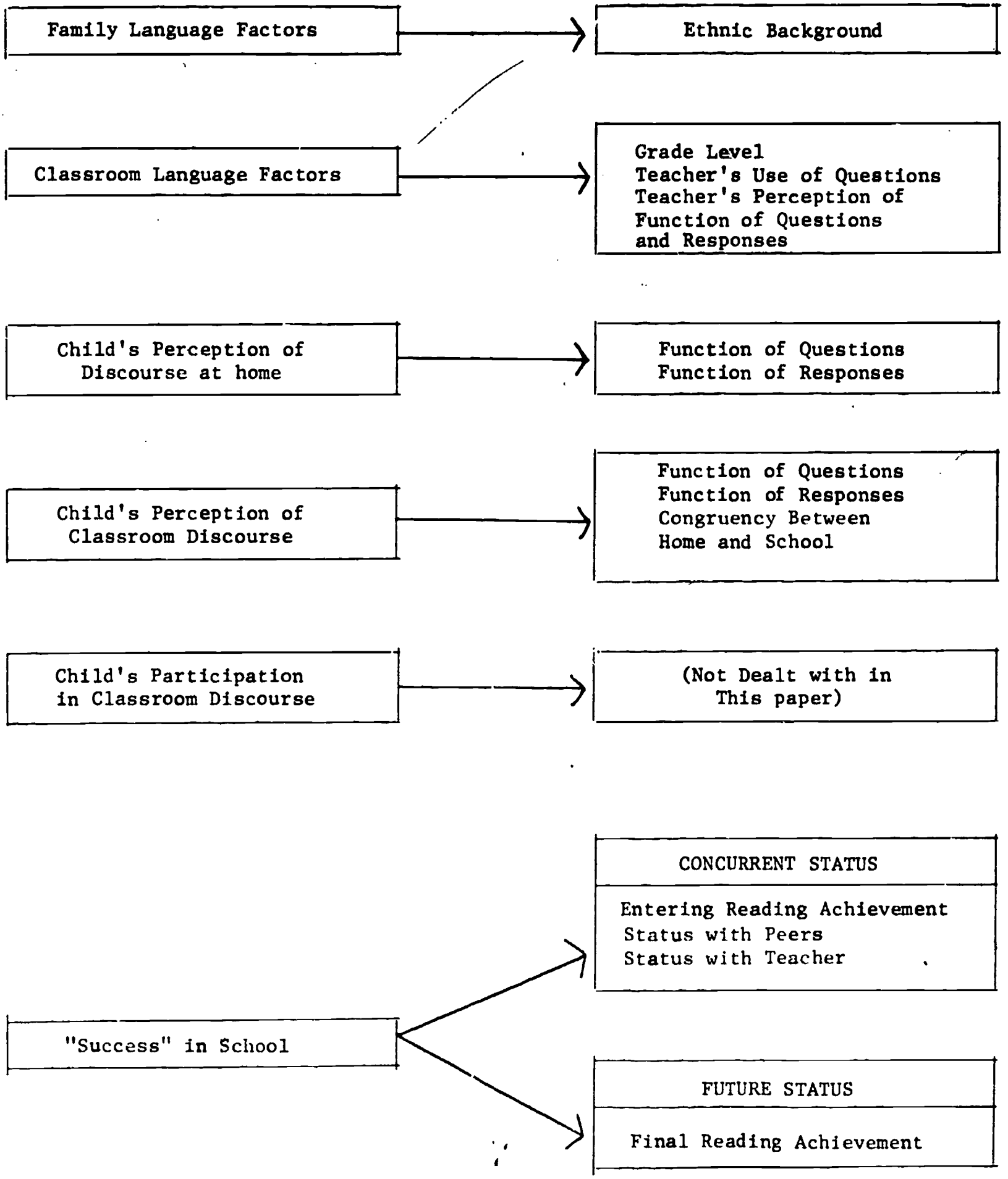


FIGURE 2

Identification of Specific Variables Considered in Analysis of Question-Response Patterns



Most of these variables are self-explanatory, or will be explicated in the process of reporting on data collection procedures and findings. The variables associated with "success" in school deserve some comment at this point, however.

Much of the research on effective teaching has focused on standardized achievement in basic skills as the single criterion of success in school. Furthermore, success is typically defined in terms of "future" status in achievement of basic skills rather than status during the period that the classroom is in operation. It is the end-of-the-year test that is most often used to determine the success or failure of the individual pupil and the effectiveness of the classroom teacher. Entering achievement, which might be termed "concurrent" status, is used mainly as a means of controlling for differential pupil ability to arrive at more accurate estimates of the teacher's contribution to pupil achievement.

A sociolinguistic approach to the study of classroom interaction forces us to acknowledge the importance of concurrent status, and to give equal emphasis to achievement status and status in the social system of the classroom in which the interaction occurs. We have viewed success within the social system in terms of pupil status within the peer group, as well as pupil status with the teacher. From this perspective the highly successful pupil, in terms of concurrent status, is one who achieves well in academic areas, and is highly regarded by both the peer group and the teacher. A very unsuccessful pupil is one who is low achieving, and is also low in peer status and in status with the teacher. Of the 128 pupils in our study for whom all three types of data were available, there were only 17 pupils (13%) who were "very unsuccessful", and 111 pupils (87%) who experienced moderate to high status in one or more areas. Only 11 of these 111 pupils (9.9%) of

all subjects were "highly successful." This suggests that success in school is much more widely distributed than we might think if we consider only final academic achievement as a criterion of success. We believe that this kind of expansion of the concept of "success" in school is essential for a clearer understanding of classroom discourse.

Subjects

The subjects of this study are 164 children, and their teachers, in six second, third, and fourth grade classrooms, in a single school located at the southern end of the San Francisco Bay. The school is located in a lower socioeconomic, multiethnic, urban area, consisting mainly of small, single family dwellings. Stable, two parent families predominate, and the school population is also remarkably stable for a lower SES community. About 45% of the pupils are Mexican-American, 35% are Anglo, 11% Black, and 9% other minority groups, including primarily children of Asian and Portuguese extraction. The six teachers are all female, and all have been teaching for many years. Four are Anglo, one is Black, and one is Portuguese.

Data Collection Prodecures

The basic data collection procedure for this study involved videotaping six language arts lessons in each classroom over the first half of the school year (September through January). The videotaped lessons were played back to pupils and teachers on the same day that they were taught. Each pupil viewed three different lessons, working individually with a data collector, and responding to a variety of data collection tasks. Each teacher viewed all six lessons, and responded to the same set of data collection tasks as did the pupils. Videotapes of conversations in three families (one Anglo, one Mexican-American, and one Black) were used to collect information on perceptions of discourse at home.

Several different tasks were designed to collect information on children's perceptions of the functions of questions and responses in school and home settings. In the task that we will focus on in this paper, a set of several questions that had been asked by the teacher during the lesson was presented to the pupil after the videotape playback. Each question was printed on a 3 x 5 card. The cards were placed in front of the pupil, and read aloud. The data collector said, "These are all things that I heard someone saying in the lesson. Who do you suppose said these things? Who do you think they were talking to? Why do you think they said these things? What do you suppose their reason was?" Children's responses were recorded.

The same general procedure was followed with a set of pupil responses to questions that had been given during the lesson. After playback of the videotape of family conversations, the same procedure was followed with a set of questions and responses that occurred during these conversations. The classroom videotapes were viewed by teachers as well as pupils, and teachers responded to the same questions as pupils did. In addition, these tapes were viewed by a sociolinguistic specialist, who analyzed the patterns of discourse within each classroom.

To gather information on pupil status in the peer group, each child (in January) was presented with an array of photographs of children in the class, given a series of scenarios and asked to select the three children most likely and least likely to fit each scenario. The episodes involved selection of team for a TV quiz show, identification of the children who would be likely (or unlikely) to take charge and know what to do if there were an accident in the classroom and no adults were around, and identification of the children who would probably be observed "hanging around" with the pupil if he/she were followed for a week. Composite scores were

developed for each pupil according to how frequently he/she was mentioned under "most likely" and "least likely" categories, and within each classroom pupils were classified as high, middle, or low in peer status, on the basis of these composite scores.

Data on pupil status with teachers were collected by asking teachers to group children on the basis of several different language characteristics, which had been identified in earlier studies as salient features to teachers (Morine-Dershimer, 1979; Morine & Vallance, 1975). In September, October, and December teachers were presented with a set of 3 x 5 cards, each containing the name of a pupil in their classroom, and asked to sort, or group, the pupils according to: their participation in class discussions; their attentiveness during lessons; their tendency to follow the "no-talking" rules of the classroom; their use of "standard English;" and their probability of success in reading achievement for the year. (Some teachers in this study declined to group students on the basis of use of standard English, saying that all of the children in their classes spoke standard English, whatever that was, although in fact there was fairly wide variance in pupils' use of what many would consider correct grammar or usage.) Teachers' groupings of pupils in December, when the classroom was well established, were used to develop composite scores of their ratings of pupils, and within each classroom pupils were classified as high, middle, or low in status with the teacher on the basis of these composite scores.

Pupil "entering" reading achievement scores were based on the results of the Metropolitan Achievement Test which was routinely administered by all teachers in the school in October. Within each classroom these scores were organized by quartiles, based on the national test norms, since the

state-funded reading improvement program in the school was evaluated on the basis of the number of pupils who moved up from the first or second quartile in reading achievement during the course of the school year.

"Final" reading achievement was measured by scores on the Metropolitan Achievement Test which was administered in the fall following our year of data collection. In examining the factors that might be related to final achievement, we have used regression analysis to control for entering reading achievement.

Data Analysis

For each task administered, pupil responses were reviewed and category systems were developed to reflect the pattern of these responses. Intercoder reliability in use of these category systems was checked by having two separate coders code all responses for one or more classes. In all cases agreement was above .90.

When all pupil responses had been coded, these data were combined with background information on pupils (ethnic group, grade level, classroom, etc.) and the SPSS computer program was used to identify general patterns of responses, as well as relationships between patterns of response and other pupil variables.

In addition, pupil responses were compared across the two settings of home and school, and within the school setting, pupil responses were compared to those of their teachers. The patterns of participant perceptions within each classroom were compared to the descriptions of the sociolinguistic specialist, following a meth d of "triangulation" recommended by Adelman and Walker (1975).

Most of the variables examined in this paper are treated as qualitative in order to make comparisons across classrooms. Chi square has

been used for the most part to test the significance of relationships, and the contingency coefficient to determine the degree of relationship. Regression analyses (performed by the SAS computer program) have been used to identify the factors that contribute to status with teacher and final reading achievement.

It should be noted that this is an exploratory study, and that a large number of relationships have been examined. The reader is reminded that significant relationships which have been identified must be viewed conservatively for this reason.

Fingings

General patterns: questions and responses in lessons. The general patterns of performance on the task of defining the functions or purpose of questions and responses in lessons are presented in Table 1. Note that the most frequent responses are that classroom questions are asked because the teacher wants to tell, or teach, while responses are given because the teacher asked a question. This suggests that many children are well aware of the phenomenon of the "psuedo-question." It is also the case, however, that 10 percent of the pupils said that classroom questions had been asked because the teacher wanted to know, and over 21 percent said that responses were given because pupils wanted the teacher or the class to know. At least some pupils do beleive that classroom questions and responses serve a typical conversational function. It is also the case that only 7.1 percent defined questions as "test-questions" (Teacher wants to know if pupils know), and only 3.2 percent thought that responses were given because pupils wanted teachers to know they know.

It may be somewhat disconcerting to educators to see that over 16 percent of the children in this study could give no reason why their

Table 1

General Patterns:

Pupil Definitions of the Functions of Questions and Responses in Lessons

Functions of Questions Reported (N=155)			Functions of Responses Reported (N=155)		
Teacher wants to know	16	(10.0%)	Pupil wants teacher to know	25	(15.6%)
Teacher wants pupils to think	5	(3.2%)	Pupil wants class to know	9	(5.8%)
Teacher wants to tell/teach	56	(36.0%)	Pupil wants to learn	6	(3.9%)
Teacher wants to know if pupils know	11	(7.1%)	Pupil wants teacher to know they know	5	(3.2%)
Teacher wants to get an answer	18	(11.6%)	Teacher asked a question	45	(29.2%)
"That's just what we're doing"	9	(5.8%)	"That's just what we're doing"	5	(3.2%)
Other, unique responses	7	(4.5%)	Other, unique responses	15	(9.7%)
No reason given	25	(16.1%)	No reason given	23	(14.9%)
Questions attributed to pupils	8	(5.2%)	Responses attributed to teacher	22	(14.3%)

teachers asked the questions that had been asked in the lesson, and almost 15 percent could give no reason for pupil responses that were given. Over 14 percent of the pupils attributed pupil responses to the teacher. This may be explained in part by the fact that several of the teachers did tend to repeat pupil responses very frequently, so that in fact many of the responses that pupils gave <u>were</u> said by the teachers as well. Table 1 is organized to emphasize the coordinated definitions that children gave (e.g., questions are asked because the teacher wants to know, and responses are given because the pupil wants the teacher to know). The percentage figures, however, demonstrate that while the definitions given provide the possibility of coordinated functions, the children did not tend to respond as if there were relationships between functions of questions and responses (e.g., 34.8 percent said questions were asked because the teacher wanted to tell or teach; while only 3.9 percent said responses were given because the pupil wants to learn). This fact is examined further in Table 2, where responses are collapsed into four major categories: Informative (Teacher wants to know, Teacher wants pupil to think; Pupil wants to learn, Pupil wants class to know); Instructional (Teacher wants to tell/teach, Teacher wants to know if pupils know; Pupil wants to learn, Pupil wants teacher to know they know). Routine Interactive (Teacher wants an answer, That's what we're doing; Teacher asked a question, That's what we're doing); and No Codable Function (Other, unique responses, No reason given, Questions attributed to pupil, Responses attributed to teacher). Only 5 percent of the pupils saw classroom questions and responses as serving a coordinated Informative function; 5 percent saw them as serving a coordinated Instructional function; 10 percent saw them as serving a coordinated Routine Interactive function; and 16 percent could give no codable function for either questions or re-

TABLE 2

Pupil Perceptions of the Coordination of Functions for Classroom Questions and Responses (N=155)

Functions of Responses	Functions of Questions: Informative	Instructional	Routine Interactive	No Codable Function
Informative	8 (5%)	19 (12%)	3 (2%)	4 (3%)
Instructional	3 (2%)	7 (5%)	0 (0%)	1 (1%)
Routine Interactive	3 (2%)	22 (14%)	15 (10%)	11 (7%)
No Codable Function	7 (5%)	19 (12%)	9 (6%)	24 (15%)

sponses. The most typical "uncoordinated function" reports were that questions are asked because the teacher wants to tell or teach, while responses are given because the teacher asked a question (14 percent), or because the pupil wants the teacher or the class to know (12 percent).

Table 3 compares pupil and teacher perceptions of the functions of questions and responses in lessons, and it is clear that in general teachers and pupils define response functions in similar ways, i.e., they are either for informative or routine interactive purposes. However, teachers reported that their questions served informative and interactive functions as frequently as instructional functions, and in this they differed from pupils' emphasis on the instructional function. Teachers did tend to report coordinated functions more frequently then pupils. For eight of the twelve lessons in which teachers defined the purposes of questions and responses, questions and responses were reported to serve coordinated functions (3 were Informative, 1 was Instructional, and 4 were Routine Interactive).

General patterns: questions and responses at home. The general patterns of performance on the task of defining the function of questions and responses in family conversations are presented in Table 4. It is clear that the major reason for questions here is that the parent wants to know, while the two major reasons for responses are that the child is "just telling," and that the child wants the parent to know. Questions and responses are definitely perceived as serving more conversational functions at home than at school. It is worth noting, however, that over 10 percent of the children could give no reason for questions being asked in this setting, while 18 percent could give no reason for responses.

Pupil perceptions of the coordination of functions of questions and

TABLE 3

A Comparison of Pupil and Teacher Perceptions of the Function of Questions and Responses in Lessons

	Question Functions Reported		Response Functions Reported	
Type of Function	Pupils (N=155)	Teachers (N=12 lessons)	Pupils (N=155)	Teachers (N=12 lessons)
Informative	21	4	34	4
Instructional	67	4	11	2
Routine Interactive	27	4	50	6
No Codable Function	40	0	60	0

TABLE 4

General Patterns:

Pupil Definitions of the Function of Questions and Responses in Family Conversations

Functions of Questions Reported (N=158)			Functions of Responses Reported (N=158)		
Parent wants to know	88	(55.7%)	Child wants parent to know	34	(21.5%)
Parent wants to tell	1	(.6%)	Child wants parent to do something	18	(11.4%)
Parent is asking	18	(11.4%)	Child is just telling	46	(29.1%)
Parent is just talking	5	(3.0%)	"That's what happened"	16	(10.1%)
Other, unique responses	13	(8.2%)	Other, unique responses	15	(9.5%)
No reason given	16	(10.7%)	No reason given	27	(18.1%)
Questions attributed to children	17	(11.3%)	Responses attributed to parents	2	(1.3%)

responses are examined in Table 5, where responses are collapsed into four major categories: Informative (Parent wants to know, Child wants parent to know); Influencing (Parent wants to tell, Child wants parent to do something); Routine Interactive (Parent is asking, or Just talking, Child is just telling and "That's what happened"); and No codable Function (Unique responses, No reason given, Questions attributed to children, Responses attributed to parents). Even in the home setting, only about 25 percent of the children define questions and responses in terms of coordinated functions (16.5 percent Informative, and 8.2 percent Routine Interactive). Almost 15 percent do not identify codable functions for either questions or responses. The most typical response (24.1 percent) is the "uncoordinated" perception that questions are asked because parents want to know, and responses are given because children are "just telling."

Congruency between home and school. Given the differences in patterns of responses in defining the functions of questions at home and at school, we should not expect to find very much congruence in children's perceptions of the two settings, and indeed there are very few children who perceive the two settings in similar ways. Table 6 presents a comparison of pupil-perceived functions of questions in lessons and in family conversations. Only 19 children out of 147 (12.9 percent) defined questions as serving similar functions in both settings (17 as Informative and 2 as Routine Interactive). Most children saw question functions as incongruent in the two settings, with 39 (26.5 percent)identifying them as Instructional at school and Informative as home. Seventeen children (11.6 percent)did not give a codable function for questions in either setting.

Table 7 presents a comparison of pupil-reported functions for re-

TABLE 5

Pupil Perceptions of the Coordination of Functions for Questions and Responses in Family Conversations

(N=158)

Functions of Responses	Functions of Questions: Informative	Influencing	Routine Interactive	No Codable Function
Informative	26 (16.5%)	0 (0%)	3 (1.9%)	5 (3.2%)
Influencing	8 (5.1%)	0 (0%)	2 (1.3%)	8 (5.1%)
Routine Interactive	38 (24.1%)	1 (1%)	13 (8.2%)	10 (6.3%)
No Codable Function	16 (10.1%)	0 (0%)	5 (3.2%)	23 (14.6%)

TABLE 6

Congruency of Pupil Perceptions of Question Functions in Lessons and in Family Conversations

Functions in Family Conversations	Functions in Lessons: Informative	Instructional	Routine Interactive	No Codable Function
Informative	17 (11.6%)	39 (26.5%)	19 (12.9%)	9 (6.1%)
Influencing	0 (0%)	1 (.7%)	0 (0%)	0 (0%)
Routine Interactive	2 (1.4%)	5 (3.4%)	2 (1.4%)	9 (6.1%)
No Codable Function	2 (1.4%)	21 (14.3%)	4 (2.7%)	17 (11.6%)

TABLE 7

Congruency of Pupil Perceptions of Response Functions in Lessons and in Family Conversations

Functions in Family Conversations	Functions in Lessons: Informative	Instructional	Routine Interactive	No Codable Function
Informative	7 (4.7%)	4 (2.7%)	11 (7.4%)	11 (7.4%)
Influencing	2 (1.3%)	1 (.7%)	7 (4.7%)	6 (4.0%)
Routine Interactive	15 (10.1%)	4 (2.7%)	18 (12.1%)	20 (13.4%)
No Codable Function	9 (6.0%)	2 (1.3%)	11 (7.4%)	21 (14.1%)

sponses in lessons and in family conversations. In this case 25 children out of 149 (16.8 percent) perceived the functions as congruent in the two settings (7 as Informative, and 18 as Routine Interactive). Most children gave incongruent definitions for the functions of responses in the two settings, with 15 (10.1 percent) reporting them to be Informative at school and Routine Interactive at home, and 11 (7.4 percent) reporting them to be Routine Interactive at school and Informative at home. Twenty-one children (14.1 percent) did not give a codable function for responses in either setting.

Summary of general patterns. The general results for the task of defining the functions of questions and responses in lessons and in family conversations seem to indicate that many children are aware of the very real differences in the functions of questions in the two settings. They tend to perceive questions as serving an Informative function at home and an Instructional function in lessons. They tend to see responses, however, as serving a Routine Interactive function in both settings. Most children do not report coordinated functions for questions and responses in the home or school setting. But some children do define questions and responses as having coordinated functions. And some do perceive a congruency of function across settings. Furthermore, in both settings there are a number of children who do not report codable functions for either questions or responses. What do these differences mean for classroom learning, and where do they stem from? We turn next to examine patterns of relationships between pupil perceptions of question-response functions and other variables.

Classroom language factors and pupil perceptions of classroom dis-

course. The classroom language factors to be considered here are grade level, the teacher's use of questions as identified by an outside observer (a sociolinguistic specialist), and the teacher's perception of the function of questions and responses in the lessons observed. The pupil perceptions of classroom discourse to be considered are the functions of questions and responses in the lessons observed, and congruency between pupil definitions of the functions of questions and responses at home and at school.

Because of the low frequency of some categories of functions of questions, and responses, and in keeping with the sociolinguistic thesis that participant perceptions define the social meaning of language, in examining relationships among these variables, pupil definitions of function have been organized into three categories: the "dominant" perception, "other" perceptions, or no codable function given. For questions, the dominant perception is that their function in Instructional, and other perceptions are that their function in Informative or Routine Interactive. For responses, the dominant perception is that their function is Routine Interactive, and other preceptions are that their function in Informative or Instructional.

There are no significant grade level differences in pupil perceptions of the functions of questions in lessons (See Table 8), but there are grade level differences ($p < .05$) in their perceptions of the functions of responses (see Table 9). These differences derive mainly from the tendency for fourth graders to define responses as having an Informative or Instructional function more frequently, and to give no codable function less frequently than would be expected by chance, while these tendencies

TABLE 8

Pupil Perceptions of the Function of Questions in Lessons, Compared by Grade Level

(N=155)

	Second Grade	Third Grade	Fourth Grade
Dominant Function (Instructional)	12	29	24
Other Functions (Informative, Routine Interactive)	6	26	18
No Codable Function Given	8	25	7

$X^2 = 6.11$; df = 4; $p < .25$

TABLE 9

Pupil Perceptions of the Function of Responses in Lessons, Compared by Grade Level

(N=155)

	Second Grade	Third Grade	Fourth Grade
Dominant Function (Routine Interactive)	9	22	19
Other Functions (Informative, Instructional)	8	18	19
No Codable Function Given	10	39	11

$X^2 = 9.8$; df = 4; $p < .05$
contingency coefficient = .25

are reversed for third graders. This suggests that there may be some development over time in children's tendency to think of their responses as having some purpose, or to be able to define a purpose.

There are no significant classroom differences in pupil perceptions of the functions of responses in lessons (see Table 11), but there are strong classroom differences in their perceptions of the functions of questions (see Table 10). These differences derive mainly from the tendency of Teacher F's pupils to define questions as having Informative/Interactive functions, while Teacher E's pupils tend to define them as having Instructional functions. The tendency of Teacher C's pupils to give no codable function more frequently than would be expected by chance also contributes strongly to this significant Chi square.

These classroom differences in pupil perceptions of the functions of teacher questions are very instructive when they are viewed in the light of teachers' use of questions, as reported by our sociolinguistic specialist. Teachers E and F are both fourth grade teachers. Their language arts lessons were regularly based on the material contained in the same language arts textbook. But their use of questions in the classroom differs markedly.

Our sociolinguistic specialist describes Teacher F's lessons as having many of the elements of ordinary conversation. For example, these are several comments from the analytic protocol:

1) Her introduction consists of a personal anecdote topically appropriate for a discussion with almost anyone;
2) The anecdote is followed by a leading question which offers the class an opportunity to bid for a turn to join the conversation;

TABLE 10

Pupil Perceptions of the Function of Questions in Lessons, Compared by Classroom

(N=155)

	Teacher A	Teacher B	Teacher C	Teacher D	Teacher E	Teacher F
Dominant Function (Instructional)	12	9	7	13	18	6
Other Functions (Informative, Routine Interactive)	6	7	9	10	2	16
No Codable Function Given	8	8	11	6	3	4

$X^2 = 28.98$; df = 10; $p < .005$

contingency coefficient = .40

TABLE 11

Pupil Perceptions of the Function of Responses in Lessons, Compared by Classroom

(N=155)

	Teacher A	Teacher B	Teacher C	Teacher D	Teacher E	Teacher F
Dominant Function (Routine Interactive)	9	6	7	9	8	11
Other Functions (Informative, Instructional)	8	4	11	3	9	10
No Codable Function Given	10	13	11	15	6	5

$X^2 = 15.71$; df = 10; $p < .25$

3) There are exchanges in which students seemingly direct the discourse with the introduction of a new topic or subtopic, and in these cases the teacher responds with a question which both builds on what the student has contributed, while at the same time allowing the teacher to design precisely where the topic will go, a strategy which evidences teacher interest in what the student has said;

4) She speaks in a friendly informal style, adding her own experience to those of her students in language that makes her "just one of the gang" conversationally speaking; and

5) Her lesson closings are much less elaborate and lengthy than her lesson openings, as she generally summarizes what has been done, evaluates the class' performance, and that's it, a pattern which appears to be a confirmation of the natural conversational style of her lessons.

In this teacher's classroom students deviate strongly from the typical pattern of defining the functions of classroom questions as instructional. One third of the pupils report that questions have an informative function, as is typical of their perceptions of family conversations, and one third report that they have an interactive function. The teacher, herself, also perceives her questions as serving an informative function.

The sociolinguist's description of Teacher E's classroom discourse is very different, as evidenced by the following protocol excerpt:

> One thing that characterizes the language in this classroom is that children get many chances to use it. Long turn-taking exchanges take place. The individual pupil does not speak for long periods of time, but many students get a chance to offer short answers or comments. Always, the teacher exerts control. She inches forward slowly, never

> fully revealing the right answers and often only giving hints of them. It is clear that turn taking is classical in her classroom, but it is also clear that the turns do not build vertically, toward larger knowledge. Instead, they build horizontally, toward further elaboration or expansion. Many, many children get a chance to describe what they think a character in a story might look like, or which odd word they remember in a poem.

In this teacher's classroom children almost never deviate from the dominant perception of questions as serving an instructional function. Only 2 children out of 23 suggest that this teachers' questions are asked because the teacher "wants to know" something. The teacher agrees with pupils in that she does not view her questions as informational either, but identifies them as instructional in one lesson, and reports that they are designed to serve an interactive function in the other lesson.

Teacher C's use of questions in lessons was different from all of the other teachers in this study, in that she relied almost exclusively upon the questions that were presented in the teacher's guide of the textbook. In lesson after lesson she read these questions from the book, and called on pupils to respond. In this classroom many children were unable to give us a purpose for the questions that were asked. One pupil, when asked whether <u>he</u> ever said these kinds of things (question) in lessons, replied "No," and explained that this was because <u>he</u> didn't have "the list" of questions to be asked. This teacher reported that her questions served an informational function in one lesson, and an instructional function in the other, but she had some difficulty in explaining the reason for children's responses to questions in one of these two lessons, saying initially that she wasn't sure <u>what</u> purpose pupils had for their comments, but eventually suggesting that they probably made these comments because she had asked a question.

These findings suggest that classroom differences in pupil perceptions of the functions of teacher questions are reality-based and in fact reflect actual differences in the ways in which teachers use questions. This interpretation is supported by a brief examination of classroom differences in pupil perceptions of congruency between the functions of questions in lessons and in family conversations. Table 12 presents these data. No test of significance has been made because of the extremely low frequency of pupils who report this type of congruency. However, it is impressive to note that of the 19 pupils who do perceive questions as serving congruent functions in the two settings, 8 (42 percent) are pupils in Teacher F's classroom, where the teacher, pupil, and sociolinguistic observer all report that questions do tend to serve an informative function, or to operate much as they do in natural conversation.

Pupil perceptions of classroom discourse and succes in school. We turn next to compare pupil perceptions of the functions of question and responses in lessons to the variables of success in school. There are no significant differences in patterns of pupil definitions of either questions or responses in lessons based on any of the three concurrent status variables considered separately (entering reading achievement, status with peers, or status with teacher). There are significant differences in definitions of the functions of questions in relation to composite concurrent status* (see Table 13). These differences stem from the fact that pupils with lower composite status define questions as instructional less frequently, and give no codable function more frequently than might be expected by chance. Thus it would appear that children who have

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* Composite concurrent status was determined by combining the scores for the three status variables for each pupil, and categorizing pupils within each classroom as low, middle, or high, according to this total.

Table 12

Pupil Perceptions of Home-School Congruency in the Functions of Questions, Compared by Classroom

(Number of Pupils Reporting Congruency or Incongruency)

	Teacher A	Teacher B	Teacher C	Teacher D	Teacher E	Teacher F
Report Congruency of Functions	2	3	1	4	1	8
Report Incongruency of Functions	16	13	15	19	19	14

Table 13

Pupil Perceptions of the Function of Questions
In Lessons, Compared to Composite Concurrent Status

(N=128)

	Low Status	Middle Status	High Status
Instructional	9	31	17
Informative or Interactive	10	22	11
No Codable Function	14	9	5

$x^2=4.75$; df=4; $p < .025$
contingency coefficient = .29

Table 14

Pupil Perceptions of the Functions of Responses
in Lessons, Compared to Composite Concurrent Status

(N=127)

	Low Status	Middle Status	High Status
Interactive	10	18	13
Informative, Instructional	8	20	10
No Codable Function	14	24	10

Table 14 presents the data on composite concurrent status and pupil perceptions of the functions of responses in lessons. There are no significant differences in perceptions of responses, based on composite status.

A regression analysis was performed to examine the relationship of pupil perceptions of the functions of questions and responses to final reading achievement. The dependent variable was Fall '79 reading achievement, and Fall '78 reading achievement, definitions of functions of questions in lessons, and definitions of functions of answers in lessons were entered into the equation. The overall regression is significant [$F=23.55$ $(8,114)$, $p < .0001$, $R^2 = .59$] , and a significant amount of the variance is accounted for by Fall '78 reading achievement. Neither the definitions of functions or questions nor the definitions of functions of answers contribute significantly to the explained variance.

It would appear, therefore, that while understanding the function of questions and responses relates to composite concurrent status, it does not relate to future success in school, when that is defined only in terms of final reading achievement. But let us return to our earlier evidence of classroom differences in perceptions of the function of questions in lessons, and consider whether these differences relate to final reading achievement.

A regression analysis was performed with Fall '79 reading achievement as the dependent variable, and Fall '78 reading achievement, information load*, peer status, ethnic background, and teacher all simultaneously entered into the equation as independent variables. The overall regression was significant [$F=16.29$ $(12,93)$, $p > .0001$, $R^2 = .667$] , and, as would be expected, en-

* A measure of amount of information reported by pupils as heard in videotaped lessons.

tering reading achievement contributed significantly to the explained variance. Teacher differences also contributed significantly to the explained variance. When these teacher differences are examined more closely, we find that there are no significant differences among the three third grade teachers in pupils' final reading achievement, when entering reading achievement is controlled. There are, however, significant differences between the two fourth grade teachers, with Teacher F's pupils tending to achieve more in reading than Teacher E's.

These are the two classrooms which exhibit the strongest differences in pupil perceptions of the functions of teacher questions, with pupils of Teacher F defining questions as serving informative and interactive functions, while Teacher E's pupils perceive them as serving instructional functions. Our sociolinguistic specialist also identified differences in these two teachers' use of questions, with Teacher F exhibiting a style approaching that of natural conversation, while Teacher E used questions in a "horizontal" fashion, gathering many responses to the same question, and remaining at the same level of question and response throughout. It is also the case that Teacher F's pupils are much more apt to view questions at home and in school as having congruent functions than are pupils from any other classroom.

Taken together, these findings suggest that Teacher F's pattern of a somewhat conversational style in use of questions, a style which makes question-asking in lessons more similar to question-asking in family conversations, may contribute to improved reading achievement on the part of her pupils. Certainly this is a possibility worth examining further.

Family language factors and pupil perceptions of discourse at home and in the classroom. Contrary to what many might expect, we have found no significant ethnic differences in children's perceptions of the social

functions of questions and responses at home or in lessons. There are differences in definitions of functions of questions in lessons that approach significance ($p. < 10$), with Mexican-American pupils tending to define questions as Instructional somewhat more frequently, and as Informational or Interactive somewhat less frequently than might be expected by chance, while Anglo pupils reverse this pattern. These data are presented in Tables 15, 16, 17, and 18.

It is also the case that there are no significant ethnic differences in pupils' tendencies to view questions and responses as having congruent functions at home and at school. As Table 19 indicates, ethnic differences in perceiving question functions as having congruency in the two settings do approach significance ($p < .10$), with Mexican-Americans tending to report congruency somewhat less frequently than might be expected by chance. Table 20 presents the data on home-school congruency in functions of responses.

These findings of lack of significant ethnic differences might be considered suspect, were it not for the fact that consistently throughout this study we have found no ethnic differences in perceptions of classroom discourse. We believe that this may be due in large part to our particular school pupulation. To begin with, it is worth noting that in this school community Mexican-Americans are the majority, rather than the minority, culture. The school appears to us to be remarkably well integrated, with numerous friendship choices that cross cultural "lines." While several of the Mexican-American parents and grandparents speak only Spanish, most of the parents are bilingual, and almost all of the children we worked with were reasonably fluent in English. In fact, many told us after viewing the videotape of family conversations, where code-switching occurred

Table 15

Pupil Perceptions of the Functions of Questions in Lessons, Compared by Ethnic Background (N=155)

	Anglo	Mexican-American	Black or Other Minority
Instructional	18	37	10
Other Functions	23	15	12
No Codable Function Given	14	19	7

$x^2 = 8.29$; df=4; $p < .10$

Table 16

Pupil Perceptions of the Functions of Responses in Lessons, Compared by Ethnic Background (N=155)

	Anglo	Mexican-American	Black or Other Minority
Interactive	19	21	10
Other Functions	16	22	7
No Codable Function Given	20	28	12

Table 17

Pupil Perceptions of the Functions of Questions
in Family Conversations, Compared by Ethnic Background
(N=158)

	Anglo	Mexican-American	Black or Other Minority
Informative	30	41	17
Other Functions	8	10	6
No Codable Function Given	20	17	9

Table 18

Pupil Perceptions of the Functions of Responses
in Family Conversations, Compared by Ethnic Background
(N=158)

	Anglo	Mexican-American	Black or Other Minority
Interactive	25	24	12
Other Functions	14	27	12
No Codable Function Given	19	17	8

Table 19

Pupil Perceptions of Home-School Congruency
in the Functions of Questions,
Compared by Ethnic Background

	Anglo	Mexican-American	Black or Other Minority
Report Congruency of Functions	10	5	4
Report Incongruency of Functions	31	47	18

$x^2 = 5.18$; df=2; $p < .10$

Table 20

Pupil Perceptions of Home-School Congruency
in the Functions of Responses,
Compared by Ethnic Background

	Anglo	Mexican-American	Black or Other Minority
Report Congruency of Functions	11	13	1
Report Incongruency of Functions	24	29	16

$x^2 = 4.56$; df=2; $p < .25$

frequently in the Mexican-American family, that they did not understand or speak Spanish very well. There is community interest in maintaining the Mexican-American culture in the family, but parents are also actively interested in having their children succeed in the American school culture.

This is clearly a different population of Mexican-American pupils than would be found in a bilingual classroom, and it would be unreasonable to expect that our findings would be replicated in that kind of classroom setting. We believe, however, that they do reflect the real state of affairs for this group of subjects. The evidence to support this belief is examined further in a companion paper (Morine-Dershimer & Galluzzo, 1980).

Conclusion

To summarize, in this exploratory descriptive study of participant perceptions of the functions of questions and responses in lessons and in family conversations, we have found that for our particular population:

1) Pupils do identify the apparently real differences in the functions of questions in lessons and in family conversations, while they tend to see responses as serving more similar functions in the two settings;

2) There are no significant ethnic differences in pupil perceptions of the functions of questions or responses at home or at school;

3) There are strong classroom differences in pupil perceptions of the functions of questions in lessons, and these differences correspond to differences in teachers' use of questions, as identified by a sociolinguistic specialist.

4) These classroom differences in pupil perceptions of the functions of questions in lessons appear to have some relationship to classroom differences in final reading achievement, when entering reading achievement is controlled for; and

5) There are significant relationships between pupil perceptions of the functions of questions in lessons and composite concurrent classroom status, but there are no significant relationships between perceptions of questions or responses and final reading achievement.

While these findings are not generalizable, we believe that they are revealing of some interesting and productive directions for future research. Specifically, we recommend that future research on teacher effectiveness examine the concurrent as well as the future success of pupils, and consider status within the social system of the classroom as well as academic status in defining success in school. We further propose that classroom differences in patterns of classroom discourse, as viewed from a sociolinguistic perspective, should be studied carefully in future investigations of teacher effectiveness.

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SUMMARY

Why Do You Ask?
Greta Morine-Dershimer and Fred Fagal

This paper reports on a sociolinguistic study of pupil interpretations of the functions of questions and responses in lessons. Subjects were 165 pupils in six classes (second, third, and fourth grades) in a single multiethnic, lower socioeconomic status, elementary school. Data collection procedures involved videotaping of language arts lessons and family conversations. Videotapes were played back to pupils, sets of questions asked and answers given on the videotapes were presented individually to pupils, and they were asked to give their ideas as to "what reasons people had for saying these things." Pupils reported that questions in family conversations were asked because people "wanted to know" (informative function), while questions in lessons served a variety of purposes (primarily instructional or routine interactive functions). There were no significant ethnic differences in pupil perceptions of the function of questions in either home or school settings. There were strong classroom differences, which corresponded to observable differences in teachers' use of questions, and which appeared to relate to classroom differences in final reading achievement.

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