Differential Teacher-Child Communications in Head Start

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LOYOLA UNIVERSITY CHICAGO

DIFFERENTIAL TEACHER-CHILD
COMMUNICATIONS IN HEAD START

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
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DOCTOR OF PHILOSOPHY

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BY
IRMGARD M. GRUBER

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS ........................................ iii
LIST OF TABLES ............................................. ix

CHAPTER

I. INTRODUCTION TO THE STUDY .............................. 1
   Background and Purposes ............................... 2
   Research Questions ................................... 4
   The Significance of the Study ........................ 4

II. REVIEW OF THE RELATED LITERATURE ..................... 9
   Differential Treatment ............................... 10
   Expectancy Research ................................ 13
      Determinants of Teacher Expectancies ............ 17
      Expectations and their Effects on the Learning Process .... 21
      Expectancies and Educational Outcomes .......... 25
   Socio-Linguistic Research ........................... 26
      Communication in Educational Systems ............ 27
      Communication Rules ................................ 28
      Context-Specific Communications ................. 31
   Formal Analyses of Communication Unit ............. 32
      Socio-Linguistic Analyses of Differential Treatment .... 36

III. RESEARCH METHODOLOGY ................................. 39
   Overview of the Study ................................ 39
   The Research Setting ................................ 40
   The Observational Event ............................. 40
   Data Collection ...................................... 41
   Entry into the Setting ................................ 42
      Data on Teachers' Perceptions of Children's Competence .... 42
      Initiation Segments ................................ 50
      Follow-up Segments ................................ 51
      Teacher Questions .................................. 53
   Data Collection ...................................... 55
   Coding of Observations .............................. 56
      Transcriptions .................................... 56
      Coding ............................................ 56
   Analyses of the Observations ....................... 57
      Analyses of Teachers' Communication Patterns .... 57
| Analysis of Variations in Teacher Communications | 58 |
| Analysis of Communications With "High" and "Low" Children | 58 |

# IV. RESULTS OF THE STUDY.

| Description of the Sample Head Start Center | 60 |
| Head Start Center Demographics | 60 |
| The Head Start Center Population | 61 |
| The Head Start Center Staff | 62 |
| The Sample Teachers | 63 |
| Programmatic Aspects of the Head Start Center | 66 |
| Group Activities | 66 |

## Analysis of Teacher-Child Communications

| The Social Organization of Group Activities | 67 |
| The Formal Structure of Group Activities | 68 |
| Who Initiates Communications? | 71 |
| Communications Between Children | 75 |
| Teachers' Allocation of Turn Taking | 76 |
| Summary | 79 |

### Teacher Communication Segments

| Initiation Types | 80 |
| Frequency Analysis of Initiation Types | 81 |
| Characteristic Features of Initiation Types | 82 |

### Follow-up Communication Types

| Frequency Analysis of Follow-up Types | 92 |
| Characteristic Features of Follow-up Types | 92 |

### Categories of Teacher Questions

| Frequency Analysis of Categories of Questions | 102 |
| Qualitative Features of the Categories of Questions | 103 |

### Applications of Communication Types in Games and Songs

| Communication Complexity | 109 |
| Frequency Analysis of Complexity | 110 |
| Characteristic Features of Complexity | 111 |
| Summary | 112 |

### Communication Variations with Individual Children

| Frequency of Communications | 114 |
| Complexity of Communications | 115 |

### Teacher-Child Communications and Teacher Assessment of Individual Children

| Teacher Ranking of Children | 121 |

### Teachers' Methods of Establishing Perceptions About Individual Children

<p>| 122 |</p>
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Descriptors Teachers Used for Individual Children</td>
<td>124</td>
</tr>
<tr>
<td>Characteristics of the Target Children</td>
<td>128</td>
</tr>
<tr>
<td>Teachers' Communications With &quot;High&quot; and &quot;Low&quot; Children</td>
<td>130</td>
</tr>
<tr>
<td>Frequency of Communications with Target Children</td>
<td>131</td>
</tr>
<tr>
<td>Complexity of Communication with Target Children</td>
<td>131</td>
</tr>
<tr>
<td>Communication Types Employed With Target Children</td>
<td>134</td>
</tr>
<tr>
<td>Communication Types by Teachers' Invitations to Any Child to Reply</td>
<td>136</td>
</tr>
<tr>
<td>Child Initiated Communications</td>
<td>138</td>
</tr>
<tr>
<td>Qualitative Aspects of Communications with Target Children</td>
<td>138</td>
</tr>
<tr>
<td>Communication Frequency and Complexity with Target Children</td>
<td>139</td>
</tr>
<tr>
<td>Teachers' Differential Use of Initiations and Follow-ups with Target Children</td>
<td>143</td>
</tr>
<tr>
<td>Summary</td>
<td>144</td>
</tr>
<tr>
<td>V. DISCUSSIONS OF FINDINGS</td>
<td>146</td>
</tr>
<tr>
<td>Discussion of Teachers' Communication Patterns</td>
<td>148</td>
</tr>
<tr>
<td>Dimensions of Head Start Teachers' Communication Schema</td>
<td>153</td>
</tr>
<tr>
<td>Academic Instruction as a Dimension Teachers' Communication Schema</td>
<td>153</td>
</tr>
<tr>
<td>Teacher Control as a Dimension of Teachers' Communication Schema</td>
<td>158</td>
</tr>
<tr>
<td>Variations of Teachers' Communications with Individual Children</td>
<td>163</td>
</tr>
<tr>
<td>Teachers' Communication and their Perception of Children's Competence.</td>
<td>163</td>
</tr>
<tr>
<td>Teacher Interviews</td>
<td>164</td>
</tr>
<tr>
<td>Classroom Observations</td>
<td>166</td>
</tr>
<tr>
<td>Teachers' Interactive Decisions</td>
<td>166</td>
</tr>
<tr>
<td>Children as Mediators of Differential Communication</td>
<td>171</td>
</tr>
<tr>
<td>Summary</td>
<td>173</td>
</tr>
<tr>
<td>Validity of the Research Methodology</td>
<td>174</td>
</tr>
<tr>
<td>Theoretical Implications</td>
<td>177</td>
</tr>
<tr>
<td>Implications for Practice</td>
<td>181</td>
</tr>
<tr>
<td>Implications for Future Research</td>
<td>183</td>
</tr>
<tr>
<td>Summary of the Study</td>
<td>184</td>
</tr>
</tbody>
</table>
Appendix

A. EXAMPLE OF CODED TEXT ........................................ 186
B. DESCRIPTIONS OF THE SAMPLE TEACHERS ...................... 191
C. CLASSROOM SCHEDULES ........................................... 197
D. TABULATIONS OF CHILD INITIATION DATA ...................... 199
E. TABULATIONS OF CHILD TO CHILD COMMUNICATION DATA .... 202
F. TABULATIONS OF TEACHER INITIATIONS BY NOMINATIONS AND INITIATIONS FOR ANY CHILD TO REPLY .................. 205
G. TABULATIONS OF TEACHER INITIATIONS AND FOLLOW-UPS ........................................... 208
H. TABULATIONS OF TEACHER INITIATION TYPES .................. 211
I. TABULATIONS OF TEACHER FOLLOW-UPS TYPES ................. 214
J. TABULATIONS OF TEACHER QUESTIONS .......................... 217
K. RANKING OF CHILDREN .......................................... 220
L. NARRATIVES OF CHILDREN ...................................... 225
M. TEACHER COMMUNICATIONS BY NOMINATIONS OF HIGH/LOW CHILDREN ........................................... 234
N. TEACHER COMMUNICATION BY INVITATIONS TO REPLY, ADDRESSED TO HIGH/LOW CHILDREN .................. 244
O. INITIATIONS BY CHILDREN TEACHERS RANKED HIGH/LOW 247

REFERENCES .......................................................... 250

VITA ........................................................................ 258
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Descriptors used in Teacher Interviews: Definitions and Examples.</td>
<td>45</td>
</tr>
<tr>
<td>2. Analytic Framework: Communication Units, Segments and Types.</td>
<td>47</td>
</tr>
<tr>
<td>3. Model for Three Segment Communication Unit</td>
<td>48</td>
</tr>
<tr>
<td>4. Model for Two Segment Communication Unit</td>
<td>48</td>
</tr>
<tr>
<td>5. Model for Complex Communication Unit</td>
<td>49</td>
</tr>
<tr>
<td>6. Observation categories: Definitions of Teacher Initiation Types.</td>
<td>50</td>
</tr>
<tr>
<td>7. Initiation Types</td>
<td>51</td>
</tr>
<tr>
<td>8. Observation Categories: Definitions of Teacher Follow-up Types</td>
<td>52</td>
</tr>
<tr>
<td>9. Follow-up Types.</td>
<td>53</td>
</tr>
<tr>
<td>10. Teacher Question Categories: Definitions and Examples.</td>
<td>54</td>
</tr>
<tr>
<td>11. Observation Categories: Definitions of Child Communication Types</td>
<td>55</td>
</tr>
<tr>
<td>12. Communication Initiations: Teacher and Child</td>
<td>72</td>
</tr>
<tr>
<td>13. Communications: Child to Child and Teacher to Child.</td>
<td>75</td>
</tr>
<tr>
<td>14. Teacher Communications: Nominations and Invitations to Reply.</td>
<td>79</td>
</tr>
<tr>
<td>15. Teacher Communications: Initiations and Follow-ups</td>
<td>81</td>
</tr>
<tr>
<td>16. Teacher Initiations: Communication Types</td>
<td>84</td>
</tr>
<tr>
<td>17. Teacher Follow-ups: Communication Types.</td>
<td>95</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION TO THE STUDY

This is a descriptive study of teacher-child communications in Head Start. The research examined teachers' patterns of communications with children and the ways these patterns are mediated by the teachers' perceptions of children's competence.

Underlying this study are two major propositions. One is a widely accepted recommendation that teachers should adapt their communications to the varying needs of children. The other, suggested by research in the primary and secondary grades, is that teachers do indeed vary their treatment of different children, but their perceptions of children's competence leads them to communicate in ways that may disadvantage some children. This study determined how such patterns hold for Head Start teachers.

To investigate the communications of Head Start teachers, the study was designed to capture live processes of verbal interactions during teacher directed group time activities. The assessment of teachers' perceptions of children's competence was done through multiple interview methods. Socio-linguistic methods were employed to analyze teachers' communication patterns, and to determine whether they communicate differentially based on their perceptions.
of children's competence.

**Background and Purposes**

Head Start is of special concern because of all the programs begun in the 1960s, that were designed to enhance the mobility of disadvantaged children, this program has proven to be the most durable, arguably the most successful, and in some ways, among the least understood, especially in relation to its internal workings.

Head Start has consistently emphasized the whole child, including nutritional and other health and social services, and parental involvement. The overall goal of Head Start, as stated in the Head Start Program Performance Standards (Project Head Start Statistical Fact Sheet, 1983) is to:

... bring a greater degree of social competence in children of low income families. By social competence is meant the child's everyday effectiveness in dealing with both present environment and later responsibilities in school and life (p.1).

In support of this goal, the Performance Standards (Head Start Performance Standards, 1975, pp. 1-3) identify the following six objectives:

1. Improvement of the child's health and physical abilities and the family's attitude toward health care and physical abilities.

2. Encouragement of self-confidence, spontaneity, curiosity, and self-discipline.

3. Enhancement of the child's mental processes and skills with particular attention to conceptual and communication skills.

4. Establishment of patterns and expectations of success for the child.
5. Increase in the ability of the child and the family to relate to each other and to others.

6. Enhancement of the sense of dignity and self-worth within the child and her and his family.

Public and political interest in Head Start has been heightened by the perception that it "works," that is, in preventing school failure. Although there is little evidence for long-term effects of Head-Start, there are a number of studies testifying to its short-term accomplishments. Some 200 studies on Head Start document significant benefits for many participants. Head Start graduates, for example, do better in the early school grades, they are less frequently kept back, and their placement rates in special education are lower (McKey et al., 1985).

Still, many important aspects of Head Start remain unexplored, as few studies have been devoted to the investigation of actual educational processes in Head Start programs. It seems useful, therefore, to step back from outcome analyses and begin a more careful study of what actually goes on between teachers and children in Head Start programs. Because educational situations are constituted in interactions, these interactions need to be studied. We know very little about the finely grained communications processes between Head Start teachers and children that are at the heart of teaching and learning.

For these reasons, I had deliberately chosen not to
study educational outcomes per se, but rather to focus on processes. They are the key to ultimate understanding of the effects of Head Start and other Early Childhood Intervention Programs. Changes in Head Start are needed, and such understandings are essential to our ability to make those changes. For front line staff working with young children, process studies are perhaps the most useful ones.

Research Questions

The guiding questions of the study are:

1. What characteristic communication patterns do Head Start teachers employ while they facilitate group activities?

2. Do teachers vary their communications with different children?

3. Do these variations appear to be related to teachers' perception of children's competence? What is the nature of these communication patterns?

The Significance of the Study

The research questions posed as well as their significance have been suggested by two different lines of research. One of them is the study of teachers' differential treatment based on their expectations of children's academic achievement (expectancy research). The second line of research is the analysis of teacher child communications (socio-linguistic research).

For the most part, these two lines of research have
remained separate and distinct, and they have been confined largely to the primary and secondary grades of formal education. Given the significance of the earlier years during which one would expect teacher's behavior to have the most effect on children, the lack of such studies in Head Start programs is especially notable.

The point of departure of this study was its attempt to link expectancy research and socio-linguistic research, and to apply them to Head Start. To delineate the significance of the two research traditions for this study, it seems appropriate to briefly describe them at this point, and to develop them in greater detail later in the literature review.

The research on teacher expectations, often known as the Pygmalion Effect, or alternately, the self-fulfilling prophecy suggests that teachers, early in the school year, begin to form judgments about children which include expectations of their performance. According to the theory, these expectations will not only mediate the way teachers interact with children but they will also affect students' achievements. Many studies indicate that when a teacher expects a child to do well, the teacher will provide much reinforcement and approval and may therefore stimulate the child's learning; conversely, when the teacher has low expectations, the teacher will be less developmentally facilitative (Brophy, 1985; Brophy & Good, 1970; Rist, 1970;

The study was intended to enhance understanding of expectancy theory and its possible applicability to Head Start. At this time, such applicability is an open question. Undoubtedly, there are many similarities between Head Start and schools, but one can not assume that the dynamics within both systems are identical. There are, for example, significant differences in teacher education, training, and background that may produce variable effects in the different systems. Also, the institutional goals differ. The primary and explicit purpose of schools is to teach academic knowledge and skills. Head Start, as stated earlier, has a much broader goal of promoting the social competence of students, even though preparation for school is one of the central purposes. In schools, it is essential that teachers detect differences in the abilities of students, grade their performance, and, in many instances, divide them into ability groupings. In Head Start, teachers do not see this as their role. In the context of Head Start, we therefore know very little about teacher expectations and their qualitative effects on teacher-child communications.

The second line of research mentioned earlier, which is based on socio-linguistic theory, is complementary to expectancy theory. Where expectation theory suggests that teachers behave differently with different children,
socio-linguistic theory helps to delineate the actual structures of communications processes (Mehan, 1979; Willes, 1983) and it also provides a framework for the analysis of these processes (Sinclair & Coulthard, 1975). Observations of the regularities and implicit rules used by teachers in their communications with children have established that teachers seem to employ context-specific patterns of communications that differ with different children (Allington, 1992; Collins, 1992). The framework used in socio-linguistic analysis as developed by Sinclair and Coulthard (1975) was adapted to my study and will be more fully discussed in a later section. It should be noted that the framework has been used mostly with grade school children and in a few instances, in pre-school (Cazden, 1972; Willes, 1983), but it has not been used in Head Start previously.

Classroom discourse research indicates that when teachers adapt their communications to the needs of the learners by eliciting, expanding, and extending children's utterances, children's development can be enhanced. The absence of such processes is seen as less advantageous for children (Tharp & Gallimore, 1988; Wood, Bruner, & Ross, 1976).

In articulating the principles that guide teachers' adaptive communication decisions, and in identifying the principles they consider, this study hopes not only to
broaden social science knowledge, but also to guide Head Start teachers' actions in their daily tasks of balancing the needs of all the children in their classrooms.

The prior material may seem to suggest that this study was intended to determine whether differential treatment in Head Start does actually disadvantage some children. This research, however, did not attempt to do that. We may infer disadvantage, but to conclusively answer the question of the ultimate effects on children would require restrictive controls and follow-up longitudinal studies that track both teachers' communication patterns and the progress of children who are judged to be less competent. As designed, this study did not do that.
CHAPTER II
REVIEW OF THE RELATED LITERATURE

As stated earlier, this study has been influenced by two distinct ideas and research traditions. These are expectancy research and socio-linguistic analysis. The literature review will be divided into two major sections to reflect these traditions. Because the idea of differential treatment is closely connected to expectancy research, the first section will initially discuss the general idea of differential treatment and its significance in education. Then I will turn to teachers' expectancies of children's competence, and I will review the relevant research. The section on expectancies reviews the following literature: the determinants of teachers' expectancies; the effects of expectancies on the educational process; and the effects on educational outcomes. The second main section of the literature review will deal with socio-linguistic analyses in education. Sub-sections will cover communications in education settings, communication rules, context-specific communications, the analysis of communications segments, and socio-linguistic analysis of differential treatment.
Differential Treatment

The idea that teachers should individualize the treatment of children has been a central one in discussions of educational processes. Many educators now believe that in teaching, success itself depends on adapting teaching to the individual learners. As sociologist Bernstein (1988, p. 99) stated, "In any teaching relation, the essence of the relation is to evaluate the competence of the acquirer." The "competent" child clearly distinguishes him/herself from the less "competent" child; good teaching may foster exactly that.

A substantial body of education research documents that teachers actually do treat different children in different ways. In fact, there may be very few teacher attributes or behaviors that may be appropriate in all situations (Brophy & Good, 1974).

Attempts to make schooling more effective by fitting instruction to students' individual needs have traditionally been described as "individualized instruction approaches", although the term "adaptive teaching" has become popular (Good & Brophy, 1991). Based on their research, Corno and Snow (1986) proposed guidelines for the adaptation of teachers' instructions to the learner: teachers could vary the materials they choose to present information and/or to guide problem solving. They could vary examples, analogies, and points of emphasis, and they also could prompt their
students' questions in different ways to aid a diagnosis. In short, teachers can adjust their interactions through qualitative variations from one student to another.

The notion of adaptive interactions is not new to investigators of child development who have observed what comes naturally to many parents. Research to date (e.g., Bruner, 1983; Cross, 1977; Snow, 1972) has shown that parents, particularly white, middle class mothers, modify and constantly adjust their speech style when speaking with young children. One of the ways they do this is through the production of well formed, contextually appropriate models. Isaaks and Clark (1987) found that adults assess children's level of expertise in a communication task almost immediately and they adjust their contributions accordingly. With increasing skill and understanding, "expert" partners can revise their level of support to be at the edge of the novice's skill. If done sensitively, adults can obtain evidence of the child's skill without producing noticeable errors, and are thus able to "up the ante" (Rogoff, 1990).

Some researchers (Cazden, 1966; McNamee, 1980; Tharp & Gallimore, 1988; Wood, Bruner, & Ross, 1976) concluded that children are best assisted by adults who adjust their teaching to the learner, who deliberately help them individually by expanding and extending their partial and halting utterances. According to this research, much learning takes place through "scaffolding" ("cognitive
The desirability of differentiating children is effected by some practical considerations. One of the problems teachers face is that classroom situations involving many students may not always allow such personalized exchange. In tailoring responses to individual children, the teacher would have to develop special relationships of great intensity, depth and commitment with all children in a class. It may be unrealistic to expect that even the most reflective and sensitive teacher would, year after year, develop such relationships with all the children in the classroom (Carew & Lightfoot, 1979). Both the size of the group and the diversity of students may further complicate the teaching process. In Head Start, with limited resources of time and energy, teachers face the demands of fairly large numbers of very young children. In dealing with many children with differing abilities, temperaments, and needs, teachers have to make judgments throughout the day about who needs help, encouragement, or reprimand.

The question is, how teachers do, in fact, make these judgments. Are they able to discriminate their teaching based on the individual needs of children? How do teachers in the classroom adapt their teaching to individual children? Expectancy research proposes some answers.
Expectancy Research

Expectancy research has assumed an increasingly prominent place in education. During the last 20-30 years, some 200-300 articles, dealing with teachers' expectancies of children have been published. This review will consolidate them and discuss their results while singling out some studies for their historical significance and their power in illuminating the theoretical base for the proposed study in Head Start.

According to Brophy and Good, "Teacher expectations are the inferences that teacher make about the present and future academic achievement and general classroom behavior of their students" (1974, p. 32). Two major interpretations of the expectation construct can be found in the literature. One interpretation focuses on the teacher's current assessment and perceptions of the student's general competence, or how adequately the student performs in particular achievement domains. In studies of this type of expectations, teachers are typically asked to describe students at the present. The second type of expectation is future-oriented; it involves a teacher's prediction about how much academic progress a student will make over a specified time in the future (Cooper & Tom, 1984).

Each of these two approaches to expectancies are similar in terms of their predicted effects. These are hypothesized to operate as follows: Early in the year, the
teacher begins to form differential expectations (current or future) for student behavior. Consistent with these expectations, the teacher behaves differently toward the children. This treatment tells children something about how they are expected to behave in the classroom and perform on academic tasks. If the teacher's treatment is consistent over time, this will effect students' self-concept, achievement motivation, level of aspiration, classroom conduct, and interactions with the teacher, and ultimately student achievement (Brophy & Good, 1991).

Expectations, in other words, may generate self-fulfilling prophecies. Moreover, even when their expectations are initially erroneous, teachers may evoke from students performance levels consistent with those expectations (Brophy & Good, 1954; Rosenthal & Jacobson, 1968).

Research on the effects of teachers' expectancies has generally taken two different approaches. In one approach, researchers give teachers false information about children in order to generate false expectations. Researchers then study the effects of these expectations on children's behavior and their achievement outcomes. The second type of study looks at the naturalistically formed expectations or judgments that teachers make about students (Good & Brophy, 1991) and the effects these judgments have on student behavior and achievement.
The "Pygmalion in the Classroom" by Rosenthal and Jacobson (1968), exemplifies the first type of research. This publication was the first and probably the best known study of induced expectations. In the beginning of the school year, "experts" gave teachers fictitious information that some of the children in their classrooms showed unusual potential for intellectual gains. In the first and second grades these "high expectancy" students showed significantly greater gains in IQ scores than did the other students in the same classroom. Conversely, "low expectancy" students showed significantly poorer performance.

The publication of Rosenthal and Jacobson's finding led to much comment and concern. The idea that teachers could be seen as powerful judges of their students's ability and as potential "breakers" of their lives produced an extensive and varied research literature examining expectations in teachers. Although influential, the findings of "Pygmalion in the Classroom" have not yet been replicated unambiguously; despite the large number of studies, no other investigators have yet succeeded in showing that induced expectations lead to significant effects on achievement tests. However, it should be noted that in many studies, the teachers were aware of the nature of the experiment (Brophy & Good, 1974), and that awareness may have diluted expectancy effects.

In contrast to the type of study in which teacher
expectations were induced through provisions of false information, many studies examine the effects of expectations that teachers form naturally. Rist's study (1970) is perhaps one of the best known of this type. In a study of a class of students followed from kindergarten through the second grade, Rist noted that after a few days in class, the kindergarten teacher began to consistently choose the same students to lead the class to the bathroom, to be in charge of equipment, to take attendance, and so on. On the eighth day, the teacher made permanent seating arrangements. Children who were generally more verbal, who approached her without apprehension, who came free of body odor, and who came from relatively higher socio-economic backgrounds, were located closest to her own desk. Children who were shy, and had trouble communicating with her, were placed farthest away. Interviews with the teacher revealed that these groupings were based on her expectations for success or failure. When these children moved into the first and then later the second grade, the same pattern of seating arrangement was found. Rist (1970) saw the slow learners as locked into a self-defeating system at this point. No matter how well a child performed, he or she remained in the low group.

Also in the category of naturalistically formed expectations is a study by Brophy and Good (1970), which explored how self-fulfilling prophecies might be set in
motion and what effects they might have. The teachers of first-grade children were asked at the beginning of the school year to rank their children in order of their academic achievement. The six children ranked the highest formed the high achievement group, and the six ranked lowest formed the low-achievement group. Brophy and Good found that the children who were seen by their teachers as high achievers sought out the teachers more frequently than "low achievers"; teachers criticized low achievers more, gave feedback more frequently to high achievers, and were more persistent in eliciting responses from them. As the high achievers scored better on standardized tests at the end of the school year, the authors concluded that teacher expectations predicted objective measures of classroom performance, achievement test scores, and teacher praise and criticism.

Determinants of Teacher Expectancies

Quite apart from the question of expectancy effects, a number of studies have attempted to establish what sorts of clues are important to teachers in forming their expectancies. These studies suggest that teacher expectations are influenced by a variety of factors, some perhaps as yet unknown.

Not only do teachers respond to many clues, but they employ various combinations of children's personal characteristics together with their own beliefs and
attitudes. Thus, there is a complex of factors that determine teachers' perceptions and expectations of children. Among the factors which have been looked at are age-of-child effects, time of school year effects, students' stylistic differences, student attractiveness and classroom conduct, the social class and race of the child, and the availability of prior information about the child. Each of these will be discussed below.

Guided by their own experience and their cultural background, teachers differ in what they see as age-appropriate (Bruner, 1975; Laosa, 1972; Papyes, 1992). In cultures like ours, judgments are based on the age of a child: children at age of 3 are expected to develop in a particular way, and at ages 4 or 5, they are expected to have different competencies.

Teachers begin to develop different achievement expectations for individual students early in the year. According to Cooper (1985), in the first days of school expectations are probably unstable. The period during which expectations are growing stable is the second week through the second month. Lundgreen (1972) observed that at this time, teachers allocate extra time to low achievers to keep the class together. As time goes on, teachers become discouraged when their best efforts with certain students consistently fail, leading to stepped up pacing and more concentration on high achievers.
Some teacher expectations are influenced by students' stylistic differences. The students that tend to be more relaxed and active, more likely to be attentive to lessons and engaged in tasks, volunteer to answer questions, or offer comments, respond correctly when called upon, and cooperate with the teachers' rules and expectations. These students are more likely to correct any misconceptions that a teacher may have about them. In contrast, withdrawn students get less attention and teachers are less frequently provided with an opportunity to correctly judge them. (Brophy, Evertson, Anderson, Baum, & Crawford, 1981; Brophy & Good, 1972, 1974; Evertson, 1982; Mertz, 1978; Noble & Nolan, 1976).

Additional information about the types of information teachers attend to in developing expectations is provided in Dusek and Joseph's (1985) meta-analysis which identified five major bases: student attractiveness; classroom conduct; race; gender; and teachers' knowledge of prior performance. In many of the studies, more than one factor was identified.

In ten of the studies reviewed (Dusek & Joseph, 1985), expectancy for both social and academic performance of students were positively related to student attractiveness; in three other studies, they were related to attractiveness alone.

As for classroom conduct, Dusek and Joseph (1985) also report that students who follow rules, use their time
wisely, and in general behave well, are likely to impress teachers more positively than students who do not behave well.

This meta-analysis retrieved a total of 29 studies in which teacher expectations were assessed as a function of race. In most of them, comparisons between Blacks and Whites were made and race emerged as an important source of information to teachers and statistically related to their expectations. With race and ethnicity varied and social class held constant, teachers had higher expectations for lower-class white children than for black children and other ethnic minorities.

Some 20 studies in Dusek and Joseph's meta-analysis (1985) examined the effects of social class alone. In most of those studies, teacher expectations for middle class children were typically higher than for lower-class students.

Surprisingly, and contrary to common belief, in Dusek and Jacob's meta-analysis of 20 studies of gender, there was a weak relationship between student gender and teacher expectancy in relation to both social performance and academic performance. However, there is some indication from other studies that student gender influences the type of interaction teachers have with boys and girls (Brophy & Good, 1974). For example, in a study by Murphy (1986) in a day care classroom, boys were criticized more for
misbehavior than girls.

The same meta-analysis also identified a total of 24 studies in which teachers knew about the children's prior performance i.e., evaluations and information from previous grades. According to these studies, there seems to be little doubt that information in student folders is a powerful determinant of teacher expectancies.

Expectations and their Effects on the Learning Process

The results of many studies indicate that although the factors that influence student performance are multiple and complex, teacher expectations play an important role in the learning process itself. Available research suggests that low expectancies for students minimizes their opportunities for learning.

This research, which will be important in this study, has been summarized by Brophy (1982): low expectancy students have less time to answer questions (Allington, 1980; Rowe, 1974); lows are either given the answer, or teachers call on someone else rather than trying to improve lows' responses through repetitions of the question, provision of clues, or framing of a new question (Brophy & Good, 1970); lows are inappropriately reinforced or rewarded for incorrect answers (Kleinfeld, 1975; Rowe, 1974); lows are more often criticized for failure (Brophy & Good, 1970; Cooper & Baron, 1977; Good et al., 1980; Good, Sikes & Brophy, 1973); when successful, lows are praised more
frequently than highs (Brophy & Good, 1970; Good et al., 1980), a finding that may be counter-intuitive and inconsistent with most of the others reported here; (Martineck & Johnson, 1979; Page, 1971); lows do not get feedback for their public responses (Brophy & Good, 1970; Good et al., 1973); lows get less attention and teachers interact with them less frequently (Adams & Cohen, 1974; Blakey, 1970; Given, 1974; Kester & Letchworth, 1972; Page, 1971; Rist, 1970; Rubovits & Maehr, 1971); lows are seated farther away from the teacher (Rist, 1970); lows receive less friendly behavior from teachers (smiles), and fewer non-verbal indicators of support (Chaikin, Sigler, & Derlaga, 1974; Kestner & Lethworth, 1972; Meichenbaum, Bowers, & Ross, 1969; Page, 1971; Smith & Luginbuhl, 1979); and lows receive less eye-contact from teachers (Chaikin et al., 1974).

Almost all of the foregoing research has been done in elementary grades. There are far fewer studies of the effects on the educational process in pre-school. Four have been reported, including two that are unpublished, and one of them is a Head Start study. The findings in these four studies are similar to those reported above.

Goodman's (1992) observation of 20 early intervention programs that included some children with different degrees and forms of mental disabilities is perhaps the best known of the pre-school studies. In her study, Goodman identified
a number of different techniques that teachers use with disabled children that may impede learning.

Teachers, in Goodman's observation, "cheat" for children by structuring their questions so they get the right answer. By offering two choices, by facial expressions, by leaving only one word out of an answer for a child to supply, teachers make it hard for children not to be right. (But the right answer does not necessarily mean that learning has occurred). The "cheating" turns into a sort of game where the challenge is to pick up the teacher's hints. This becomes evident when the teacher gives an absurd choice--"Is this ice cream or is it an elephant?" When heavy coaching is unsuccessful, teachers will take over the task themselves and use the children as assistants, instead of assisting the children. This puts the children into a passive position.

Goodman also found that in pursuing their curriculum, teachers turn regularly to the more competent children who will partially answer the questions and serve as proxies for the class. The slower children may try to hang on by watching quietly, imitating movements when they cannot understand language, narrowing their focus to a close neighbor, or their own bodies. Others will misbehave. When this happens, they will be managed by teachers, while the more advanced children will be instructed.

When children disrupt routines, teachers often cast the
best light on the meaning of their behavior by reinterpreting their activities. A child who is tired of sitting and wants to do something else is told: "You want (or need) help in sitting." In effect, the teacher is saying, "You must not feel uncooperative, you must not feel like running." Such directions may feel pleasant on the surface, but they deny children the authenticity of their subjective feelings.

A study by Quay and Jarret (1986) compared the interactive behaviors of nine teachers in private preschool and 17 in Head Start and looked at their differential patterns with boys and girls. While teachers in the private preschool had a higher rate of negative initiations to boys than to girls, those differences were not found in Head Start. Murphy's (1986) research in a preschool suggests that preschool teachers treat boys and girls differently; boys were criticized more often for their misbehavior.

A British study investigated the associations between teachers' academic expectations at the beginning, and at the end of the school year in Infant Schools and the effects of these expectations on students (Blanchford, Burke, Farquhar, Plewes, & Tizard, 1989). A positive association between expectancy and interaction was confirmed. The authors suggested that the differential attainment and progress was mediated by variations in teacher behaviors: the children for whom teachers had higher expectations were given a wider
range of curriculum experiences.

**Expectancies and Educational Outcomes**

I have already documented that differential expectations often lead to differential treatment of students. But there is a dispute about how much teachers' expectations actually influence children's performance in a negative or harmful way. Specifically, there is the difficult problem in observational studies of developing causal links between expectancies and outcomes. According to some research (Brophy, 1975), data on teacher expectations collected early in the year do predict student achievement at the end of the year, but the relationship may reflect accurate teacher observations of students rather than a self-fulfilling prophecy. Brophy's analysis of expectancy studies (1985) estimates that only 5-10 percent of the variance in educational outcome can be accounted for by the self-fulfilling prophecy. But in real life, even a five percent variance may be important, especially for students in the lower achievement categories. It should also be kept in mind that early differences may be compounded over the school years.

In summary, expectation studies leave no doubt that grade school teachers form expectations of children. These expectations are formed early in the year, remain fairly stable, and are based on a variety of factors. Some of them are based on stereotypes, some are based on observations in
the classrooms. These judgments effect teacher communications and behavior and produce discernible differences in interactions with high-and low expectancy students. Some of these interactions are subtle but they are nevertheless related to qualitative aspects of teaching.

There is a general consensus that high-expectancy students receive higher quality interaction with teachers, which is theorized to lead to greater student achievement. These findings are relevant to the proposed study. Apart from the question of educational outcomes per se, we will attempt to discover whether the expectation phenomena discussed hold true for Head Start. Finally, there is some evidence that such identifiers as ethnicity and gender of students may determine teachers' judgments. These factors will be included in the study.

Socio-Linguistic Research

The previous material has established the occurrence of differential treatment of children based on teachers' perceptions of the children. Clearly, the term, "treatment" as used in expectancy research is often synonymous with communication, yet research on expectancies has not developed formal and systematic methods for the analysis of communication.

This is the strength of socio-linguistics. Through socio-linguistic analysis, we can describe the features of communication between teachers and children by exposing the
implicit communications rules, the recurrent patterns and the minute processes that take place in the fine grain of communications. In exposing such transactions, socio-linguistic research has revealed significant patterns of communication in classrooms.

In succeeding sections, I will introduce the subject of communications in education, then review the literature that frames the structure of communications rules in education generally, and in pre-school in particular. I will look briefly at the context-specific character of communications inasmuch as it bears on the home-school transition, and then turn to the literature dealing with the formal analysis of communications units in educational settings. To conclude, I will discuss socio-linguistic analysis of differential treatment.

Communication in Educational Systems

Communication is a primary medium by which much learning and teaching takes place. There is a clear consensus that successful educational outcomes depend heavily on satisfactory interaction, predominantly verbal interaction, between teachers and their students (Cazden, 1966, 1986, 1988; Lubeck, 1985; Mehan, 1978, 1979; Willes, 1981, 1983). The quality of talk that teachers initiate and sustain is therefore of great importance. It is further assumed that quality is not solely dependent on something arbitrary such as the individual flair of teachers. It is
an important part of the identity and the relationships of the participants. For teachers, communication is the primary, essential indispensable mode of professional functioning. Communication differences, how something is being said and what is being said, can seriously affect teaching and learning (Willes, 1983).

**Communication Rules**

In sociologist Bernstein's (1990) terms, in any pedagogical relationship the transmitter (teacher) has to learn to be a transmitter and an acquirer (student) has to learn to be an acquirer.

When you go to a doctor you have to know how to be a patient. It is no good going to the doctor and saying, 'I feel really bad today, everything is really grey'. He says, 'don't waste my time', because he has many patients. 'Where is the pain? How long did you have it? What kind of pain is it? Is it acute? Is it chronic? Is it sharp? Is it persistent?' After a bit you learn how to talk to your doctor. He teaches you to be an acquirer (Bernstein, 1990, p. 65).

For many children, Head Start is the first large institution in which they are expected to participate in communication processes, individually and publicly. Where early schooling generally represents the first step taken unaccompanied from the family into the larger world, such learning requires enormous effort and the process is not unproblematic. For a child in the process of learning, it involves the acquisition of rules and social order, character, and manners which become the condition for appropriate conduct in the pedagogic relation (Lubeck,
In taking the new role of pupil, the newcomer to school has to test what is being learned at home. During this encounter with the larger social world, children have to adjust to new types of one-on-one interaction, different forms of peer interaction; they must sit still together with other children, pay attention to other children's answers, and wait for turns to be called upon.

Learning how to be a pupil may be a major function of school-preparatory programs. Willes (1981, 1983) studied the processes of children's socialization into classroom communications in day care classrooms. She was concerned with the varying kinds of conversational interactions that the organization of the day allows for and examined the orderly and rule governed character of classroom communications, and the ways in which meanings are negotiated between teachers and young pupils.

Teachers had a great deal of discretion in the exercise of tolerance and this is the condition that permits much indirect and inexplicit teaching to be done. I found that the teachers of these newcomers to the educational system expected and tolerated from the children answers that were unexpected or inappropriate, or indeed inaudible, and would select from a babel of sound a response she regarded as satisfactory, or, if none was discernable, would impose upon a chorus of sound the answer that she hoped to hear (Willes, 1981, p. 57).

Indeed, this is very much like middle class mothers of infants who try very hard to have conversation with their infants and interpret a sound or look or movement from their
babies as if these constituted a turn at talking (Snow, 1972). According to Willes, preschool teachers often behave as if the children are already the participating pupils they will become. Children are taught to engage in the discourse of the classroom very much as they are taught a variety of other games played by rules. They are treated as players, but players whose moves initially require a great deal of interpretation from those who are more experienced. Thus, the games played in the classroom differ from those played outside it: the teacher retains the dominant role: the pupils' role is that of a recipient. Willes (1983) argued:

Teachers assist, not by explaining what the rules are, but by providing prompts and clues, by an initial tolerance of very hesitant and partial responses, by supplying suitable responses for them... Slower and less confident students often imitate children's utterances who seemed to have pleased the teacher well enough to get positive feedback. This form of imitation is often not well received: teachers are often irritated by it, and a second or third responding move that evidently imitates the first is usually evaluated less favorably (p. 186).

For children in Head Start, this means learning a whole variety of different sets of communication rules: turn-taking rules, rules that the teachers set for free play activities, and outside game activities, present a different set of rules for participation then the sets of rules for participation during whole group activities. Children also have to learn when, and under which circumstances, they can be broken. By the time they leave Head-Start, they have to "know how to be pupils".
Context-Specific Communications

Communication is context-specific, that is to say, it differs between home and school. Students need to distinguish the special features of classroom talk from everyday talk at home, and some children are better prepared for this than others. Mehan observed: "Like strangers in a new community, students entering the classroom for the first time must be socialized to new customs" (Mehan, 1979, p. 196). Here is a very simple but nonetheless revealing example of one of the differences between conversation outside school and classroom talk:

Conversation:  
Question: What time is it?  
Response: Half past two  
Follow-up: Thanks.

Classroom talk:  
Question: What time is it?  
Response: Half past two  
Follow-up: Right.

In school, children's contributions are evaluated. Although the difference between the two may seem very simple, children come differentially prepared for classroom talk. As Rogoff (1990) explains:

The tailored responses of middle-class adults communicating with young children, focusing their attention, and expanding and improving the children's contributions appear to support children's advancing linguistic and communication skills in ways valued by their community (p. 157).

Heath's studies (1983) confirmed this view. She has analyzed differences in the language structure used in schools and that used in white lower class and lower-class African American homes. In one of the lower-class communities studied by Heath, children were expected to
adjust their talk to the adults. The adults do not adjust their talk to the children through expansions and extensions, nor do they use follow-up questions. Heath also has found that these children were not regarded as information-givers nor as conversational equals with adults; they were not asked questions for which the adult already has the answer, such as questions to elicit fact or detail, but they did participate actively in richly diversified talk.

In communities where children are not asked questions for which adults already know the answers, e.g., questions for fact or detail, children may be poorly prepared for the pedagogically preferred patterns of discourse used in school which are theorized to enhance learning.

**Formal Analyses of Communication Units**

Most socio-linguistic analyses of classroom discourse structures have identified three primary elements of communication, each of which has been found present in all classrooms. These are: initiation, student response, and teacher follow-up (which is typically an evaluation). Using these three communication elements or segments, researchers have developed a three-part communication unit which serves as a schema for recording and analyzing communications (Cazden, 1986, 1988; Flanders, 1970; Mehan, 1979; Sinclair & Coulthard, 1975; Willes, 1983).

Here is an example of the three-part communications
A teacher initiates communication: "Who knows what day it is today?"
A child responds by saying, "It is Monday". The teacher follows up (evaluates): "Right".

In fact, this three-part communication unit is similar to Bruner's (1983), "Language Acquisition Support System" (LASS) which he used for the analysis of mother-infant communication. His observations of white middle-class mother child-dyads has such structure:

M: "Look, what is that?"
Ch.: Babbles, or "It's an X."
M.: "Yes, this is an X."

Although the three-part schema has been found in all classrooms, not all sequences of teacher-child communications have each of the three segments. For example, a teacher may ask (initiation), "What day is it?" and a child may answer, "Monday" (response) without any further communication (follow-up) from the teacher. Although this does not vitiate the basic three-part schema, each of the three segments (initiation, response and follow-up) have also been studied separately.

Owing to the significance of teacher initiations, special attention has been given to this segment. Typically, teachers tend to initiate communications with a question. Through their questions, teachers can simplify or complicate the student's way of responding. Cazden (1986) separated three distinct functions of questions that provide the expected student answers: enabling the lesson to
proceed, helping children to learn how to accomplish an academic task, and helping the teacher assess their learning.

Teachers' questioning practices were discussed by Bloom (1956). In his "Taxonomy of Educational Objectives", he proposed to classify questions for their cognitive value, and distinguished between questions that require factual recall or questions that require more complex cognitive work. Studies using these distinctions of teachers' questioning practices have been fairly consistent. About 60% of teachers' questions required students to recall facts, about 20% required students to think, and the remaining 20% were procedural (Gall, 1960). An analysis of this kind has not been done with pre-school age children.

Teachers initiate their communications in ways that help children to produce a response. In videotapes of infant schools, French and McLure (1981) find two interactive strategies used by many teachers, which operate to give guidelines to the pupils. One strategy, called "pre-formulating", is often used by teachers when they want the children to answer with one or more words. Here is an example (French & McLure, 1981, p. 35):

Preformulator: T. "Can you see what the elephant's got at the end of the trunk?"
Preformulator: T. "What is it?"

French and McLure identified a second strategy, used by many teachers, when the children's utterances were
considered to be wrong: the strategy of reformulating the question. For example (French & McLure, pp. 38-43):

<table>
<thead>
<tr>
<th>Original Question</th>
<th>Reformulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are those people doing?</td>
<td>What are they planting?</td>
</tr>
<tr>
<td>What kind of elephant?</td>
<td>Was it a very sad elephant?</td>
</tr>
<tr>
<td>What did they do?</td>
<td>Did you see a chest of drawers?</td>
</tr>
<tr>
<td>What else do you see?</td>
<td></td>
</tr>
</tbody>
</table>

Because these reformulations progressively decrease the cognitive task required of the child, French and McLure predict that teachers will use the less specific version first. The third part of teacher-child communication sequences is some type of follow-up in response to the child's response. Teachers' efforts to expand and extend through their questions and follow-up has been theorized to be an important determinant of children's development (Cazden 1966; McNamee, 1980; Tharp & Gallimore, 1988; Wood, Bruner, & Ross, 1976).

Follow-up may take several different forms. Often, it may be in the form of evaluation by the teacher ("right, it is a..."). Alternately, when a child stops short or leaves out information, the adult may organize the child's accounts (e.g., "who else was there", or "what happened next"). In preschool, teachers often just repeat what children say (Cazden, 1972). Parenthetically, it might be noted that there may be ample opportunities for re-formulations, but the scarce literature on pre-school simply does not deal with this question.
Socio-Linguistic Analyses of Differential Treatment

The literature reviewed so far has been either research about differential treatment, or about linguistic analysis of teacher-child communications. Typically, researchers have dealt with these two issues separately. There are a few studies that appear to combine some elements of differential treatment with linguistic analysis. However, the methods used for linguistic analysis have been somewhat less formally structured than those previously described.

Michaels (1981) focused on differential treatment based on race and, using socio-linguistic methods, analyzed the communications of teachers and students. Michaels compared both the structure and the content of narratives told by black and white kindergarten children and the content and structure of comments and questions by a white teacher. Michaels found that there were differences in children's narrative style: more "topic-centered" by white students and more "process-centered" by black students. The study found that it was difficult for white teachers to appreciate process-centered narratives.

Allison (1980) looked at the relationship between the reading performance of children and teachers' responses to their reading errors. There were significant differences in timing of the corrections: teachers were more likely to interrupt poor readers immediately at the point of error than waiting for the next error. Allison also found that
there is a difference in the overall rate of teacher correction of errors: 66 percent of the poor readers errors were corrected, while only 22 percent of the good readers' errors were corrected.

McDermott's (1978) study of high and low reading groups showed that in the high group the teacher had each child read in turn around the group, while in the low group, the teacher fostered a process in which children "bid" for a turn. The bidding process produced unequal opportunities and the amount of time spent in bidding detracted from reading time. McDermott suggests that the bidding process itself is functional in the lower group because it helps teachers avoiding calling on students who cannot read.

Collins (1982) focused on the element of "uptake" during the segments of high- and low reading groups with working-class and lower-middle class black children in Chicago. "Uptake" is a way of extending children's questions through the incorporation of a student's answer into a subsequent teacher question. For example:

Uptake:
T. "All right, what are we looking for?"
C. "Signals."
T. "What Signals?"

No Uptake:
T. "Okay, when we think of a village, what do we think of?"
C. "A little town."
T. "A small town, yes. And uh, the son's name is what?"

Collins found that the lower reading groups in both classrooms under investigation had fewer teacher uptakes and
more sequences. As a result, the communicative cohesion broke down and teacher's attention was diverted from discussion of one topic to another.

These four studies confirm the findings of earlier discussed research on differential expectation effects. However, most important here is the evidence that some of these differences in communications are very subtle; socio-linguistic analysis permits the detection of these differences.

To summarize this part of the literature review, I have discussed several ideas pertaining to teacher-child communications. I have reviewed the importance of communication in education, the significance of individualized communication, and the role of the teacher in transmitting "the rules of the game" when children enter the educational system. I have extended the discussion of communication to the formal analysis of teacher-child communications using socio-linguistic methods and I have highlighted a communication unit (initiation, response, and follow-up) found to be present in all classrooms. Within the framework of this unit, the actual responses of teachers to children are found to vary. It has been theorized that these variations affect the quality of children's educational experience, and ultimately their learning. This study looked at these variations.
CHAPTER III
RESEARCH METHODOLOGY

Overview of the Study

This study asked if Head Start teachers vary their characteristic communications with individual children, and what these communications patterns are. In particular, the study sought to determine whether these variations appear to be related to the teachers' perceptions of children's competence. Data were collected through classroom observations and teacher interviews over eight months of weekly data collection in two Head Start classrooms. Observations were made of verbal communications between teachers and children. These data were recorded and analyzed according to pre-determined specific socio-linguistic units. Teachers were asked to identify children who, according to the teachers' judgments, are high in competence and low in competence. In addition, open-ended, semi-structured interviews were conducted to investigate how teachers arrive at their judgements about children. This part of the interviews also determined the descriptors teachers use when they talked about individual children. Teachers' communications were examined to determine patterns, if teachers varied their communications
with individual children, and whether there were communication differences between the "highs" and "lows."

The Research Setting

The research took place in a Chicago Head Start program, primarily chosen because it was one of few programs that gave permission for this year-long research. Four classroom teachers, working in two classrooms, served as the sample. This allowed for observations of two teachers working with a group of children at different times. The four sample teachers volunteered to participate in the research. Each teacher was paid ten dollars for each of the four interviews, which lasted about one hour.

Maximum enrollment per classroom was 17 children. During the course of this research, three children dropped out in classroom I, and were replaced; and two children dropped out in classroom II, and were not replaced.

The Observational Event

The primary observation unit was teacher-led group activity time. Group time events were important for the study for several reasons. The interactions to be observed are similar to later school interactions. And probably for the first time, the children had to adapt to the social structure of teacher directed events. Children needed to respond to the teacher's questions and speak in front of a large group, while at the same time, peer interaction was not permitted. Thus, group time may be a significant event
for children in Head Start.

Group time events were also chosen for the research because they included a large number of dyadic teacher-child communications. Often, teachers gave children a turn to speak at least once, so it was possible to compare teacher communications with the different target children (high and low competence) during a given event.

There also were other opportunities for observing teacher-child communications, during less public, one-on-one situations, for example, during free play activities, meal times, etc. During these sessions, very few teacher-child communications were found. Teachers were chiefly concerned with classroom management situations ("clean up the toys before you play at the watertable").

**Data Collection**

Each of the two participating classrooms was visited weekly for a total of 32 times each over the course of close to one school year (October 1993/June 1994). During this time, data were collected on teacher-child communications and teacher perceptions of individual children. To be as unobtrusive as possible, I was always present in the classrooms during the entire sessions, even though formal data collection took place only during group activities. This also gave me opportunities to observe teachers and children during a variety of activities and to interact with children.
Entry into the Setting

The entry phase consisted of one month of weekly observations in each of the two classrooms to develop a level of trust and acceptance of myself as the researcher by the participants and to familiarize myself with the setting and the children. During this time, no formal audio-taping or note-taking took place. Retrospective field-notes documented these observation and impressions.

Data on Teachers' Perceptions of Children's Competence

Teacher expectancies in this study were defined as the subjective perceptions by teachers of the children's overall competence. The aim was to assess teachers' estimate of present capabilities of children. This was a global judgement for measurement purposes independent of "objective" performance assessments of the child. A ranking method was supplemented by open-ended teacher interviews. The procedure was employed during the first month of the research, after three months, and again toward the sixth month, to determine if perceptions about some children have changed (November, 1993; February, 1994; and May, 1994). This measure was employed at three different points in time to investigate the teachers' perceived competence level of the children and the stability of these perceptions. An additional interview that did not include rankings took place at the end of the research (June, 1994). To inform the Head Start teachers about my observations, and to
discuss some implications for the teachers' work with children, a feedback session was conducted in the end of June, 1994.

Perceived Competence. Measure I: Ranking. This was a scale in which teachers ranked children into five categories: Highest, High, Middle, Lower, Lowest. Using file cards that contain the child's names, teachers were asked to order the children in their classroom into one of those categories. These rankings were used to identify groups of children with different levels of teacher-perceived expectations of competence.

Measure II: Open Ended Interviews. In addition to ranking the children, the teachers were interviewed about each child. These interviews were audio-taped and transcribed. The purpose of these interviews was to gather data about the information teachers actually have about the children, how and when they develop judgments about the children, and what criteria they use for rating children into a high or low category. This information was used to interpret data on teacher communications with individual children. The interviews are not used to rank the children but to supplement the rankings and to enhance understanding of those thought processes that presumably guide the teachers actions.

The interviews were semi-structured and guided by predetermined questions. Here is the interview schedule:
Teacher Interview Questions

1. Tell me about child X.

2. How long does it usually take to get to know a child?

3. Can you think about situations when you had to revise what you have thought about a certain child?

4. What do you do to gather information about a child? Do you exchange such information with your co-worker?

Data Analysis. The first question ("Tell me about child X") aimed to find the descriptors teachers used when they described children. Multiple interviews about each child were conducted at different points of the year. The interview transcripts were analyzed according to the following seven variables: Children's language skills, social skills, home environment, emotional development, cognitive development, progress children made while they were in the program, and behavioral problems. The variables are defined in Table 1.
Table 1

Descriptors used in Teacher Interviews: Definitions and Examples

<table>
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<th>DESCRIPTOR</th>
<th>DEFINITION</th>
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| LANGUAGE SKILLS             | Any verbal behavior by the child, including (a) the ability to communicate, and (b) to speak correctly.  
  example (a): He asked me this question  
  example (b): He does not speak well. |
| SOCIAL SKILLS               | Any reference by the teacher about behavior by the child that shows ability to interact (a) with the adult and (b) other children.  
  example (a): He likes to sit by me.  
  example (b): He shares well with others. |
| HOME ENVIRONMENT            | Any reference by the teacher about the child's home environment.  
  example: His mother lets him watch soap operas. |
| EMOTIONAL DEVELOPMENT       | Any reference by the teacher about behavior of the child about a child's emotions  
  example: He always looks so happy. |
| PROGRESS CHILDREN MADE      | Any reference by the teacher about changes observed while at Head Start  
  example: He really learned to play with toys. |
| COGNITIVE DEVELOPMENT       | Any reference by the teacher about a child's cognitive ability  
  example: He is really smart |
| BEHAVIORAL PROBLEMS         | Any reference by the teacher about a child's behavioral problems  
  example: He really needs to learn not to hit children. |
The interviews were initially analyzed for two additional child characteristics: Children's play behavior and children's appearance. These descriptors were dropped in the analysis because they rarely occurred during the teachers' interviews. Each of these descriptors was enumerated to establish frequencies of descriptors teachers mentioned most often and which they talked about less frequently when they described children.

Questions 2, 3, and 4: The responses to these questions were not formally analyzed or coded. I summarized and described teachers' responses to these questions.

Data on Teachers' Communications. As discussed earlier, this study was concerned with the varying types of verbal communication that teachers use. The basic framework for this analysis was derived from Sinclair and Coulthard's (1975) model of socio-linguistic analysis in classroom discourse and adapted to this research in Head Start. In analyzing teachers' questions, Bloom's (1956) schema was applied.

Conceptual Framework for Analyzing Communication Data. The schema for collecting and analyzing data about communications is shown in Table 2. It consists of a model containing a three-part communications unit comprised of segments: teacher initiation, student response, and teacher follow-ups. Because the primary focus of this research is on teacher communications, and teachers did most initiations
and follow-ups, these segments were analyzed.

Table 2

Analytic Framework: Communication Units, Segments and Types

<table>
<thead>
<tr>
<th>COMMUNICATION UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEGMENT (Initiation)</td>
</tr>
<tr>
<td>TYPES</td>
</tr>
<tr>
<td>(Question, Directive, Statement, Discipline, Management)</td>
</tr>
</tbody>
</table>

While the model is structured on the basis of three-segments, all three were not always found empirically. In other words, a teacher may have initiated, there may have been a student response, but follow-ups may have been absent. I will show below several different possibilities and begin with an example of a three-segment communication unit.
Table 3
Model for Three Segment Communication Unit

<table>
<thead>
<tr>
<th>THREE SEGMENT UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initiation</strong></td>
</tr>
<tr>
<td>T: What do you see in this picture?</td>
</tr>
</tbody>
</table>

A simple variant of the three-segment unit is one which consisted of only two segments without follow-up. This is shown below in Table 4.

Table 4
Model for Two Segment Communication Unit

<table>
<thead>
<tr>
<th>TWO SEGMENT UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initiation</strong></td>
</tr>
<tr>
<td>T: Is this a red ball?</td>
</tr>
</tbody>
</table>

Other units were more complex, that is, they consisted of a number of exchange segments. For example, a teacher may have used a variety of follow-ups before moving on to another unit. Below, in Table 5, is an example of a complex unit, consisting of four follow-ups that yield a total of
nine exchanges.

Table 5

Model for Complex Communication Unit

<table>
<thead>
<tr>
<th>COMPLEX, NINE EXCHANGE UNIT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initiation</strong></td>
</tr>
<tr>
<td>T. Yvonne will go first. Tell us what you hold in your hand.</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

As shown, communication units varied in terms of their complexity where it was measured from low to high according to the number of exchange segments.

The analytic schema that we used for looking at communications also considers within-unit communications, i.e., different "types" of teachers' initiations and different "types" of follow-up. I will discuss each in turn.
Initiation Segments

Teachers directed their initiations to all children or address them as individual children. They asked questions (What is this?), gave directives ("Look at this picture"), made a statement ("We will go to the gym today"), or use a management communication types ("Sit down"). All initiation types are defined in Table 6.

Table 6
Observation categories: Definitions of Teacher Initiation Types

<table>
<thead>
<tr>
<th>INITIATION TYPES</th>
<th>DEFINITIONS AND EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>QUESTIONS</td>
<td>Any verbal behavior that suggests an inquiry, something asked by the teacher. Examples: &quot;What is this?&quot; &quot;Why did you do this?&quot;</td>
</tr>
<tr>
<td>DIRECTIVES</td>
<td>Any verbal behavior by the teacher that orders a response by the child. Examples: &quot;Say 'good morning'&quot;. &quot;If you have a red sweater on, get up&quot;.</td>
</tr>
<tr>
<td>STATEMENTS</td>
<td>Any verbal behavior by the teacher that provides information. Examples: &quot;This is a blue sweater.&quot; &quot;Today we will go to the gym&quot;.</td>
</tr>
<tr>
<td>DISCIPLINE MANAGEMENT</td>
<td>Any verbal behavior by the teacher that corrects a child's behavior. Examples: &quot;Sit still&quot;. &quot;You have to listen&quot;.</td>
</tr>
</tbody>
</table>

Each of these communication types was either directed to an individual child through a nomination, or to the entire group by inviting any child to respond. The different ways teacher allocated initiations with children
are displayed in Table 7.

Table 7

Initiation Types

<table>
<thead>
<tr>
<th>TYPES</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ADDRESSED TO INDIVIDUALS</td>
</tr>
<tr>
<td>QUESTIONS</td>
<td>---</td>
</tr>
<tr>
<td>DIRECTIVES</td>
<td>---</td>
</tr>
<tr>
<td>STATEMENTS</td>
<td>---</td>
</tr>
<tr>
<td>MANAGEMENT</td>
<td>---</td>
</tr>
</tbody>
</table>

Follow-up Segments

The second segment this study analyzed was the different types of teacher's follow-ups. Teachers sometimes just repeated the child's utterance. Other forms of teachers' follow-ups were uptakes: Teachers expanded ("How does it feel"). Teachers also repeated (Child: "It is red", Teacher: "It is red"), or restated a child's response (Child: "It is a teddy", teacher: "This is a bear"). The different follow-up types that this study was interested in are defined in Table 8, below.
### Table 8

Observation Categories: Definitions of Teacher Follow-up Types

<table>
<thead>
<tr>
<th>FOLLOW-UP TYPES</th>
<th>DEFINITIONS AND EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UPTAKE</strong></td>
<td>Any verbal behavior by the teacher that is intended to expand or extend a child's response. Examples: Child: &quot;This is a ball.&quot; Teacher: &quot;How do you know?&quot; &quot;What color is it?&quot;</td>
</tr>
<tr>
<td><strong>POSITIVE EVALUATION</strong></td>
<td>Any verbal behavior that follows a child response that suggests approval or praise. Examples: &quot;Right!&quot; &quot;Good!&quot;</td>
</tr>
<tr>
<td><strong>NEGATIVE EVALUATION</strong></td>
<td>Any verbal behavior by the teacher that follows a child response that suggests disapproval or displeasure. Examples: &quot;No! This is not a butterfly.&quot;</td>
</tr>
<tr>
<td><strong>REPETITION</strong></td>
<td>Any verbal behavior by the teacher that completely reiterates a child's response. Example: Child: &quot;A House!&quot; Teacher: &quot;A house!&quot;</td>
</tr>
<tr>
<td><strong>RESTATEMENT</strong></td>
<td>Any reiteration by a the teacher that changes or corrects a child's response. Example: Child: &quot;A house!&quot; Teacher: &quot;This is a house.&quot;</td>
</tr>
</tbody>
</table>

As they did through their initiation moves, teachers addressed their follow-ups to the whole group, or they nominated individual children. The schema for teacher's allocation of follow-ups is shown in Table 9.
Table 9

Follow-up Types

<table>
<thead>
<tr>
<th>TYPES</th>
<th>FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ADDRESSED TO</td>
</tr>
<tr>
<td></td>
<td>INDIVIDUALS</td>
</tr>
<tr>
<td>UPTAKE</td>
<td>---</td>
</tr>
<tr>
<td>REPETITIONS</td>
<td>---</td>
</tr>
<tr>
<td>RESTATEMENTS</td>
<td>---</td>
</tr>
<tr>
<td>EVALUATIONS</td>
<td>---</td>
</tr>
</tbody>
</table>

Teacher Questions

As defined in Table 10 below, questions were organized into two categories according to the cognitive objectives by the teacher: Questions that test children's recall information (Category B) and questions that ask for children's thinking (Category B). A third category (Category C) was established to collect all questions that did not fit into the previous ones.
Table 10
Teacher Question Categories: Definitions and Examples

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>DEFINITION</th>
</tr>
</thead>
</table>
| "A", RECALL QUESTIONS  | Any question teachers ask to test children's ability to recall or recognize something.  
                           | Examples: "What color is this?" "What did you do today?"                  |
| "B", THINKING QUESTIONS| Any questions teachers ask to test children's thinking abilities.          
                           | Examples: "Why do you think this happened?" "What will you do in the block area?"
| "C", OTHER QUESTIONS   | All questions that do not fit clearly into the previous categories, including procedural questions. 
                           | Examples: "Why don't you color this blue?" "Don't you want to play with us?"

In addition to teacher communications, two types of child communications were coded: all initiations made by children, and communications that occurred between children. These communications are defined in Table 11.
Table 11
Observation Categories: Definitions of Child Communication Types

<table>
<thead>
<tr>
<th>COMMUNICATION TYPES</th>
<th>DEFINITIONS AND EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD INITIATION</td>
<td>Any verbal behavior by the child that is not prompted by a teacher initiation. Child: &quot;Teacher, teacher, I got a dog&quot;.</td>
</tr>
<tr>
<td>CHILD-CHILD COMMUNICATION</td>
<td>Any verbal behavior a child that follows verbal behavior by another child. Child 1: &quot;I want to sing the bird song.&quot; Child 2: &quot;I want to sing that song also.&quot;</td>
</tr>
</tbody>
</table>

This model of analysis permitted detailed descriptions of the specific patterns of communications employed by each teacher. This description was the basis for establishing whether there were variations of teacher communications with individual children and with children who were perceived to be of high or low competence.

Data Collection

To obtain detailed descriptions of communication by teachers, two main methods of recording were used: field notes and audio-tapes. The aim was to record an uninterrupted stream of detail with minimum filtering of data.
Coding of Observations

The coding of teacher communications was in two steps. The first consisted of transcription of the recorded material, and the second was the actual coding. The mechanical aspects of the coding process were done on the "Ethnograph" computer program.

Transcriptions

I transcribed the entire body of verbal teacher-child communications, organized by teachers, observation dates, and according to large group versus small group setting. Unclear or unambiguous utterances were noted as "inaudible".

Coding

Communications were recorded and coded in three ways; first all speakers, including teachers and individual children, were identified with a code. A second code determined if a teacher nominated a particular child to respond, or if the teacher addressed a communication to the entire group, inviting any child to reply. Thirdly, all communications were coded in terms of the following teacher initiation and follow-ups types: Questions, directives, statements, management discipline communications, uptake, repetitions, and positive and negative evaluations. Fourth, all questions were coded in terms and Categories A, B, and C. (The codes used, and an example of coded text, is shown in Appendix A.)
Analyses of the Observations

All communications were coded as described above. The communication patterns were determined through simple enumerations and counting of communication units and types. All data were adjusted according to children's attendance and the number of observation days with each teacher. Teacher communications were analyzed in terms of two kinds of turn-allocations: communications addressed to individual children and communications addressed to the group and which invited any child to reply. Data were analyzed in terms of means and percentages per observation session. Large and small group data were compared. All data were described in text, examples, and frequency data.

Analyses of Teachers' Communication Patterns

In response to the first research question, teacher-child communications were analyzed as follows: how frequently teachers and children initiated communications were produced, how frequently children communicated with each other; how frequently teachers addressed their communications to individual children through nominations, and how frequently they addressed their communications to all children; how many initiations and follow-up segments teachers employed; how many of each initiation and follow-up type teachers employed. As it was previously discussed, communication frequency was measured in terms of the occurrence of communication units, consisting of all
initiations, responses and follow-ups that took place. I also established what kind (category) of questions teachers asked children: "recall", "thinking" and "other" questions. A subsequent analysis determined the level of complexity each of the teachers employed. Complexity was measured in terms of the number of exchanges within each unit. The analysis was done for large and small group contexts.

Analysis of Variations in Teacher Communications

The second research question asked if individual teachers varied their communications with individual children. Variations were measured in two ways: how frequently teachers communicated with each of the children, and how complex their communications were with each of the children. I compared mean frequency and mean complexity of communications between each child with each of their teachers.

Analysis of Communications With "High and "Low" Children

The third research question asked if there was a relationship between the presumed independent variable, teacher's (high/low) perceptions of children's competence, and the presumed dependent variable, teachers' communications. The target children chosen were three children each teacher consistently ranked highest and the three children they ranked lowest. Eliminated from this selection were children who left the program during the year or who entered the program during the school year.
Two levels of frequency analysis were used. A first analysis measured whether teachers differentiated their communications with the target children in terms of frequency and complexity. To determine differences, I tabulated and compared means, per observation day, on communication frequency and complexity of communications between each teacher the three children and each teacher had judged as "high" and the three judged as "low".

A second analysis examined communications in terms of specific initiation and follow-up types with the "high" and "low" children. These analyses were based on observations in large groups only, because each of the children belonged to one particular small group with one of the teachers, and some of the target children did not participate in a particular teacher's small group. I compared each initiation type teachers used when nominating individual "high" and "low" children and then each follow-up type that teachers used when nominating individual "high" and "low" children. I also compared the mean frequencies of initiations by "high" and "low" children themselves. Last, I analyzed two communication types teachers addressed to the group: questions and uptake, to establish differences in communications with the target group children.
CHAPTER IV
RESULTS OF THE STUDY

This study aims to answer the following questions:
What communication patterns do Head Start teachers characteristically employ during group activities? Do teachers vary their communications with individual children? Do these variations relate to teachers' perceptions of children's competence, and what is the nature of these communication patterns?

These questions were investigated through teacher interviews and classroom observations. The findings of the observations and interviews will be presented in this chapter, and a following chapter will discuss and interpret the data. I will begin with a brief description of the sample Head Start program, and then respond to each of the research questions separately.

Description of the Sample Head Start Center

Head Start Center Demographics
The Head Start Center that was used as a sample for this study was started in 1965 under the umbrella of an established Chicago community organization. It was one of the first Head Start programs. The center is housed in a large, old church building in Chicago's Uptown neighborhood,
located in the city's north-east side. It is set between the wealthy "Gold Coast" and a socially and economically deprived, transient area, often referred to as the "Kenmore Drug Corridor".

Many people who live in this neighborhood suffer from drug and alcohol abuse. Close to the Head Start center is a half way house for the mentally ill and a transient building filled with poor immigrants housed in small living spaces and known for a number of shootings. There are also some small enclaves of stately old homes and apartment buildings in the neighborhood, but most of the Head Start families live in small run-down low rise apartments.

In contrast to its lively neighborhood surrounding, the church that houses the Head Start center is quiet and dark. The building itself does not immediately reveal the presence of a children's program. But the classrooms themselves are bright, lively, and crowded. Their walls are full of colorful children- and teacher-prepared displays. As a safety precaution, the classroom doors are locked throughout the program hours.

The Head Start Center Population

The 102 participating children were divided into three morning and three afternoon groups of 17 children each. The children attended the center for three hours a day, four days per week, for nine months of the year. There were typically 10-15 nationalities represented in the Head Start
center. At the time of this research, the Head Start population included thirty percent Latino, thirty percent African and African-American children combined, twenty percent East and South Asian, and ten percent white children. Families were enrolled in compliance with Head Start's federally mandated income restrictions and ten percent were "special needs" children.

The Head Start Center Staff

The program was staffed by ten full-time employees: a director, a secretary, two social service aides, three head teachers, and three teacher assistants. At the time of this research, the director was in her final year prior to retirement after 13 years of service to the program. In her role as supervisor/administrator, she carried out multiple responsibilities, including administrative work, oversight of all day-to-day activities, proposal writing, community outreach, and supervision of the staff. Chronically stretched for time, in the director's own words, it was "a job not doable as designed".

The job of dealing with potential crises and problems usually fell to two para-professional social service workers. Parents or children with severe disturbances would be referred to various outside specialists.
The Sample Teachers

The four teachers in the sample came to the Head Start program because, according to the director, "they were intelligent and dedicated people, and also know the struggle at a gut-level". As the Department of Human Services (DHS) required, all teachers have obtained the minimum qualifications. For a head teacher the requirement was an Associate Degree in Early Childhood Education or at least a CDA (the nationally recognized "Child Development Associate"); for a teacher assistant it was a High School degree or GED, two courses in child development, plus experience with children.

One head teacher and one teacher assistant teamed together and worked side by side with a classroom of children. Each teacher oversaw one morning and one afternoon group of children. The head teachers had oversight responsibilities and also trained and supervised teacher assistants and occasionally parent volunteers.

I will now briefly introduce the four teachers who participated in this study. (See Appendix B for narrative-style "profiles", based on teachers' self-reports, and derived from the interview questions.)

Rhonda¹, head teacher in classroom I, was born and educated in Pakistan, where she received a B.A. degree in Education. She taught preschool and elementary school in

¹The names of all teachers and children are pseudonyms.
Pakistan. After she moved to the United States of America, she became an assistant teacher at the Head Start program. She acquired a CDA and additionally 18 child development credit hours from a Chicago Community College. Rhonda was an essentially "academically" oriented teacher, mostly interested in teaching children numbers, shapes and colors.

Gena worked with Rhonda in classroom I as a teacher assistant. She was born and raised in Columbia, where she taught in a church-based elementary school. Without much previous formal education, she completed an A.A. in Early Childhood Education at the time of this research. Gena was a person who "taught from the heart", and felt that being warm, loving, and caring are the most important elements in working with young children.

Louise, head teacher in classroom II, is a bi-lingual second generation Mexican-American woman. At the time of this research, she was in her first position of a head teacher. First trained by Rhonda, she has been with the Head Start center for four years. In addition to 18 community college credit hours, she recently completed a CDA. She views her role as about being a teacher at Head Start largely in terms of setting the stage for children's development, teaching children social rules and enforcing them, responding to children's basic needs, role-modelling, and in helping children to influence each other positively.

Donna, assistant teacher, working with Louise, was in
her first year at the Head Start center, but had a ten year background working with young children. She is an African American woman and aims to become a Social Worker. She was encouraged in this type of work by a kind and supportive teacher who mentored and supported her as a young child. Donna sees these qualities as essential in working at Head Start.

As diverse as the sample teachers were, some important elements existed across all teachers. According to teachers' self-reports, the following common characteristics were present: There was a strong appreciation for children and a conviction that Head Start is important for children. They all completed course-work and the minimum credentials required from them while they worked full time and raised their own children. All teachers came from backgrounds that valued traditional education. They all verbally supported comprehensive practices as were promoted in Head Start. In terms of their practices, all four teachers emphasized that their own interventions with children should be kept to a minimum; they felt that teachers should not intervene proactively with children's activities. All teachers viewed group activities, the observational focus of this research, as primary vehicles for children's learning about subject areas such as numbers, colors, songs, and labels of various items and concepts.
Programmatic Aspects of the Head Start Center

The curriculum of this Head Start center was a fairly eclectic one that consisted primarily of teacher defined weekly themes, and it was supplemented by some aspects of the High/Scope approach. In addition, teachers implemented some components of the Erikson Institute Early Literacy Training Project.

For each of the three-hour sessions, a regular daily time-schedule was carried out. (See Appendix C for schedules.) The sessions consisted of approximately one third teacher directed group activities, one third child-chosen activities, and one third routines such as meal times and brushing teeth. The schedules were followed faithfully so teachers were able to include all Head Start (DHS) program expectations.

Group Activities

Teacher-child communications were observed during small and large group activities. The children were routinely assembled three times each session for large group times, and once for a small group session.

Large group activities took place on the rug where all children sat in a circle, the teacher perched on a chair. The first large group-time lasted usually ten to fifteen minutes, beginning with a greeting that was usually followed by attendance taking, a song or game, and a brief discussion about the weather or specific events. At the end of the
session, individual children were sent to the washroom. Often, they were required to respond to a teacher question before leaving the group ("Before you leave, tell me the name of a bird"). This procedure was, according to the teachers, designed to channel children individually to washrooms.

A second large group activity lasted fifteen to twenty minutes and typically consisted of some songs or games and a discussion taken from a weekly theme. Occasionally, this time was used for children's "review" of their work time activities, an adaptation of the High Scope curriculum. At the end of the Head Start session, the children were grouped again for ten to fifteen minutes, often for a story, a brief conversation, and a song.

At "small group time", children were subdivided into two groups. The same teacher worked with the same small group of children throughout the year. Seated around a table, the teachers carried out a discussion, an art project, or did "recall" of children's "work time" activities.

Analysis of Teacher-Child Communications

This section will describe Head Start teachers' verbal communication patterns. I will present the data in three ways: I will first focus on the social aspects of group time activities; a second section analyses verbal communication in terms of linguistically defined segments and types; a
third section will look at "communication complexity" in terms of the length of exchanges communication between teachers and individual children.

The Social Organization of Group Activities

This section will focus on the management of group communications and how teachers' and children's speaking turns were arranged.

The Formal Structure of Group Activities

Group activities in Head Start were routinized and predictable events. When children arrived at the Head Start center, teachers quietly instructed them to sit in a circle on the rug. Calmly, teachers reminded children to sit straight. Teachers sometimes whispered when they talked to the children. One teacher moved around behind the circle and helped the children to "settle down". Some children were asked to change their place to sit closer to the teacher who was already sitting in the circle. Although many children liked to sit next to the teacher, the teachers' purpose was to supervise particular children more closely. The teacher in charge of the group sat usually on a chair in a corner, elevated from the children who sat on the rug.

The formal beginning of "group time" was usually marked by a shift in the teachers' tone. Her voice would suddenly became louder, and a rising intonation resembled that of a grade school teacher. Children were formally and officially
greeted with a "Good morning, children" or "Good afternoon, boys and girls", even though many children already have been individually welcomed by the teacher earlier. Now, the teachers would begin to engage the children in a conversation. Often, teachers started with a brief discussion about the day of the week or the weather. Below is a typical example of such an opening; the teacher was Rhonda:

EXAMPLE 1

Teacher: Let's see who is here today... How is it outside? Is it nice outside? How is it outside?
Erika: Cold.
Teacher: It is cold outside?
Dan: No.
Teacher: No? Then what.
Dan: It's summer.
Teacher: It's summer? You think so, it's summer already?
Dan: Yes, it's fifty degrees.
Teacher: Yes. It's hot in the classroom, too. Like summer. (pause)
Teacher: Let's see. Is Carl here today? (takes attendance)

The teacher then typically continued with reading all children's names. Each child knew to reply with "here". For some children, this was one of very few occasions during the day during which they responded individually to a teacher.

Only once throughout the year, a variation from this routine was observed when a teacher engaged the children in a discussion about a poster before taking attendance. A child cried out: "Teacher, teacher, the names!"

Some children knew exactly what was expected from them,
as in this episode with Gena. Gena typically would ask the children, after she took attendance, a question such as "let's see, who is absent today". Once, she did not specifically ask this question, but instead posed a more global query. Still, Itone knew exactly what the teacher wanted to hear:

EXAMPLE 2

Teacher: What's happening today. Move back, move back, move back. What happened today... What happened today?
Itone: Nobody!
Teacher: Nobody! Everybody is here. Everybody is here!

After taking attendance, the teachers typically continued with a song, a game or a discussion about an issue, most of which she had previously planned. Often, conversational topics were grounded in a teacher defined weekly theme, such as "insects", "community helpers", or "colors".

The organization of small group time resembled the structure of large group time. Each of two teachers routinely assembled the same group of children around a table. In fact, often children occupied the same seat daily, although the teachers did not require this. As during large group activities, teachers selected and planned the topical focus. Many of the activities began with a formal statement: "Today we want to do...". As in the case of large group activities, teachers expected children to be "ready" for small group time. Children generally understood
the implicit meaning of being "ready", e.g., not to play or carry out conversations with each other, but to sit down silently and focus on the teacher. The following episode was observed with Donna during a tortilla making activity.

EXAMPLE 3

Teacher: Okay, Let's not flatten it (the dough). Let's make another ball (pause) Okay, whenever you are ready. (pause) I am ready.

Amy: I am ready.
Tania: I am ready.
Teacher: I am ready! Who else is ready.
All: Me.
Teacher: One other person.
Dennis: I am ready.
Teacher: You are ready! Now stick your finger in the middle.

Through its formal social and physical structure, the organizational system of group activities set itself off from other classroom activities. There were a number of implicit participation rules that children had to learn. The following section will examine the rules and some of their structural aspects.

Who Initiates Communications?

Most communications during group times were initiated by teachers, and very few communications were initiated by children. This pattern was constant across teachers. Data in Table 12 show these differences. (See Appendix D for tabulations of child initiation data per teacher.) The differences in teacher versus child initiations was especially pronounced during large group activities. During small group activities, children initiated more
communications than they did during large group activities.

Table 12

Communication Initiations: Teacher and Child

<table>
<thead>
<tr>
<th></th>
<th>LARGE GROUP</th>
<th></th>
<th>SMALL GROUP</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TOTAL</td>
<td>MEAN PER DAY</td>
<td>PER CENT</td>
<td>TOTAL</td>
</tr>
<tr>
<td>TEACHER INITIATIONS</td>
<td>3344</td>
<td>47</td>
<td>88</td>
<td>1483</td>
</tr>
<tr>
<td>CHILD INITIATIONS</td>
<td>474</td>
<td>7</td>
<td>12</td>
<td>409</td>
</tr>
<tr>
<td>ALL INITIATIONS</td>
<td>4818</td>
<td>54</td>
<td>100</td>
<td>1892</td>
</tr>
</tbody>
</table>

Note: Data were collected during 71 large group and 44 small group sessions, and are based on a sample of four Head Start teachers.

In general, teachers rarely encouraged children to launch a communication, and children were sometimes even discouraged from initiating communications. The following excerpt from a story presentation by Donna exemplifies such a situation. According to my observation, this episode presented a particular child's (Frank) first and only effort to initiate an idea during group activities. Therefore, this was potentially a significant experience for him. The situation occurred when Frank discovered a picture of a tiny mouse hidden in all pages of the picture book Donna presented to the children.
EXAMPLE 4

Teacher: One of the lions here is different. Who is different?
Hector: Sleeping.
Maria: He is sleeping.
Teacher: One at a time, He is sleeping, but why is one of them different. This one is different because it is brown. These three have what color?
Frank: (points) There is the mouse!
Teacher: I need you to sit down. Frank!
Frank: Oh, look, here! (points).
Teacher: Frank!
Frank: Teacher, look!
(no reply)
Frank: Teacher, look, here, mouse.
Teacher: Franklin, I am reading the story right now.
Frank: Teacher. teacher!
Teacher: (turns page) I'm trying to read the story, Frank. What is this?
Maria: Bear.
All: Bear.
Teacher: And how many do you see.
All: Count to five.
Frank: Mouse!
Teacher: And there is the mouse, I see the mouse! One of these bears are different, which one is different.
Maria: He's sleeping.
Teacher: He's sleeping. What about this?
Eurid: Crocodile.
Teacher: Crocodile. And how many do you see?
All: Count: one, two, three...
Teacher: And one of the crocodiles is doing something different.
Maria: He's sleeping.
Teacher: He sure is!
Maria: Like the lion.
Teacher: All the animals that were sleeping were the lion, and what else.
Maria: The crocodile.
Teacher: And how many do you see. Let's count together.
All: Count to nine crocodiles.
Teacher: Nine. We have nine...
Frank: And mouse.
Teacher: (irritated) And a little mouse. (turns page) Okay, what do we have here.
Kay: Birds.

As in this example, teachers generally remained focused on their own topics. In situations when children attempted
to move into a conversation with an idea or discovery of their own or launch an unsolicited comment, teachers frequently would fend often them off, ignoring them or acknowledging them very reluctantly, and then continuing with their agenda. As data in Table 12 show, most children complied with this mode of interaction.

There were, however, child initiations that teachers accepted more easily. Generally, these were initiations that were closely related to the teacher initiated topics. The following episode describes such a child initiation move.

EXAMPLE 5

Teacher: Tell me how the weather is today. Is it raining outside?
All: Yes!
Erika: I got my umbrella.
Teacher: You got your umbrella. So it is raining outside. Erika said she got an umbrella, right? Who else got an umbrella with you.
All: Me, me.

Unsolicited verbal contribution by children which, as in the previous case, enhanced the teachers' theme, where more easily accepted by the teachers. In that case, those contributions gave teachers a chance to amplify a point they had made previously.
Communications Between Children

A second communication rule generated during group activities was that children were not to speak each other. The majority of the conversations consisted of teacher-child dialogues. Throughout the entire school year, very few verbal communications between children were observed during group activities, as Table 13 demonstrates. This pattern was consistent across teachers. (Appendix E shows tabulations of these data per teacher.)

Table 13
Communications: Child to Child and Teacher to Child

<table>
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<td>MEAN PER</td>
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<tr>
<td></td>
<td></td>
<td>DAY</td>
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Note: Data were collected during 71 large group and 44 small group sessions, and are based on a sample of four Head Start teachers.

The children's focus was to be on the teacher and not on each other, and cross-discussions among children were uncommon during both large and small group activities.
Teachers' Allocation of Turn Taking

In groups, teachers interacted with individual children and a large number of children simultaneously. One-to-one (teacher-child-teacher) communications dominated the discourse. Teachers used two basic strategies to allocate children's turns. They either nominated individual students, or invited any of the children to reply. The example below, observed with Rhonda during a large group activity, incorporates these two strategies:

EXAMPLE 6

Teacher: What did Baby bear do?  
(pause)  
Teacher: What about something she said?  
(pause)  
Teacher: What did he say?  
(pause)  
Teacher: Something?  
(pause)  
Teacher: Dan, what did she do?  
Dan: Was sitting on my chair.  
Teacher: Someone was sitting on my bed.  
(pause).  
Teacher: What else did she do. Mike, how do you think she was feeling.  
(pause)  
Teacher: He was what? (mimics being sad.)  
Mike: Sad.  
Teacher: Okay! It is time to wash hands.

The previous example is typical. Teachers routinely elicited responses from the group first. When children failed to reply, they nominated a specific child. This was done in the following ways: through pointing at a particular child, maintaining eye contact, or calling the children by name.
Some situations were dominated by teacher nomination moves, an interaction mode that was especially prevalent during High/Scope plan-and-review sessions. As the following example will show, children were sometimes confused. This excerpt shows a High/Scope recall session, during which Louise reviewed individual children's work time activities.

EXAMPLE 7

Teacher: What about Amy? What did you do?
Amy: Cut monster.
Teacher: You cut a monster. You played in the art area right here?
Amy: (nods).
Teacher: And what else did you do?
Dennis: Me too.
Teacher: Now, we are listening to Amy. It's Amy's turn. What else did you do, Amy?
Amy: I cut a monster.

Teachers did not explicitly clarify ahead of time which speaking rule was implemented at a given time. When children were confused, teachers corrected them and advised them to wait for their turn to speak.

In inviting all children to reply, some teacher initiations encouraged a chorus response, as the following example shows:

EXAMPLE 8:

Teacher: Alright. Who remembers this story? Who is this?
All together: Baby bear!
This type of chorus response was usually acceptable to teachers unless they had nominated a particular child. A chorus response was expected by teachers when they asked children routinized questions, such as counting the days of the week.

Communications that invited any child in the group provided opportunities for any child to respond. However, only a few children took this opportunity, while many remained silent. Some children were aware that some were more capable conversational partners than others. The following example shows how Dan responded, after another child, Mike, already had produced a series of many responses.

EXAMPLE 9

Teacher: What do you think, is it a real snake?  
Mike: A toy snake  
Dan: (Looking angry) Mike, you are so good at this!

Teachers sometimes gave all children a chance to have a speaking turn. Especially toward the end of group sessions, teachers often went around and asked all children individually a question before they were dismissed, for example:

EXAMPLE 10

Teacher: Okay, let's see. Sadan. Can you give me the name of a bug?  
Sandy: Whispers.  
Teacher: Can you say it loud?  
Sandy: Fly.  
Teacher: Fly. You can go and wash your hands.
All teachers nominated more individual children during small group time than they did during large group activities. As shown in Table 14, almost two thirds of the communications were addressed to the entire group, whereas during small group activities only one quarter was addressed to the entire group. This pattern was similar across teachers. (Appendix F shows tabulations of these data per teacher.)

Table 14

<table>
<thead>
<tr>
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Note: Data were collected during 71 large group and 44 small group sessions, and are based on a sample of four Head Start teachers.

Summary

Group activities were structured and predictable events. Most communications were initiated by teachers, and they tended to discourage child initiations. Discussions among children were rare. Teachers had two ways of
eliciting children's communications; they either nominated individual children, or they directed their communications at all children and invited anyone to reply. Each of these turn allocation forms was used by the teachers about half of the time. Some group size effects were observed: Teachers nominated more individual children, children initiated more communications and spoke to each other more often during small group activities than they did during large group time activities.

**Teacher Communication Segments**

To investigate how teachers elicited and maintained conversations with children, all communications were analyzed in terms of linguistically defined segments. As discussed in Chapter III, their communications consisted of three basic segments: initiations, responses and follow-ups. All segments combined created a "communication unit".

Because the focus of this research was teacher communications, the specific segments of interest were teacher initiations and follow-ups. First, I wanted to establish how often each of these segments occurred. Did teachers emphasize communication initiations or did they use more follow-ups?

As data in Table 15 show, teachers' communications consisted of more initiation moves than follow-ups in both large and small groups. This pattern was constant across teachers. (Appendix G shows distribution of initiations and
follow-ups per teacher). The proportions of initiations and follow-ups were similar during small and large group activities: initiations consisted of slightly more than half, and follow-ups of slightly less than half of the total body of teacher communications. I will discuss both segments separately, and begin with initiations.

Table 15

Teacher Communications: Initiations and Follow-ups

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<td>59</td>
<td>100</td>
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</tbody>
</table>

Note: Data were collected during 71 large group and 44 small group sessions, and are based on a sample of four Head Start teachers.

Initiation Types

When teachers initiated communications, they did so in four different ways: through questions, statements, directives, or discipline initiations. Each of these was referred to as an "initiation type", and defined in Chapter III. All initiation types will be first discussed in terms of the frequency of their occurrence. A subsequent section
will consider the nature of each initiation type how it was used by the teachers.

**Frequency Analysis of Initiation Types**

Each of teachers' initiation types were analyzed in large and small group activity settings to determine if specific types were employed differently in the two contexts. I wanted to investigate if, for example, more questions were asked during large or small group activities. In addition, each communication type was analyzed in terms of teachers' allocations of turn taking, to determine if teachers tended to use specific communication types through their nominations of individual children or through invitations to any child to reply. Did teachers, for example, use directives more often when they nominated individual children or when they address the entire group?

Teachers employed communication types in ways that were similar across teachers. Their occurrence is summarized in Table 16. (Appendix H shows all initiation types per teacher.)

*Questions* were the most dominant type of teacher initiations. Data in Table 16 show that during large group time, questions consisted of more than half of all initiations; slightly less during small group time. During large groups, about half of teachers' questions were by nomination of individual children and half by invitations to any child to reply. During small group activities, teachers
posed almost twice as many questions through nominating individual children than through inviting any child in the group to respond.

Table 16 shows that teachers also used a large number of statements. In initiating their communications with large groups, 25 percent were statements. When teachers worked with small groups, 28 percent of their initiations were statements. During large group time, they addressed three times as many statements to the group than they did to individual children. There were also more statements addressed to the group than statements addressed to individual children.

Directives were used less frequently than questions and statements. During large group time, 17 percent, and during small groups, 22 percent of all communication initiations were directives. In large groups, teachers addressed similar numbers of directives to individual children as they did to the group. During small group time, teachers used three times as many directives with individual children than they did with the group.

Teachers employed very few discipline management utterances during small and large group activities. Only seven percent of all discipline initiations were addressed to individual children and five percent to the group. When teachers used discipline management communications, they used them most often with individual children.
Table 16

Teacher Initiations: Communication Types

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<tr>
<td>ALL INITIATIONS</td>
<td>3344</td>
<td>47</td>
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</table>

Note: Data were collected during 71 large group and 44 small group sessions, and are based on a sample of four Head Start teachers.

Characteristic Features of Initiation Types

Having established how frequently teachers employed specific initiation types, I will now elaborate on each of them, and on how teachers used them.

Questions. A noticeable feature of teachers' questions was that they typically implied a predetermined answer.
Teachers usually pursued a particular response they believed was the correct one, shown in the following example, observed with Gena during a large group activity.

EXAMPLE 11

Teacher: (shows poster of fish) All these are fish. Where do fish live?
Mike: In the water.
Teacher: In the water, you can see all kind of fish. What are the colors of the fish?
Mike: White.

Teachers assisted children in their answering moves when children did not grasp the kind of responses teachers expected them to give. In this example, observed during small group activities, Rhonda solicited child dictations for a Mothers' Day letter:

EXAMPLE 12

Teacher: You want me to write something? ...Hm? For your mommy?
Giovanni: (no reply)
Teacher: What do you want me to write?
Giovanni: (no reply)
Teacher: You want to say something special, like thank you mommy for (pause) (writes) thank you mommy (pause) what do you want to say?
Giovanni: (no reply)
Teacher: You want to write something special for her?
Giovanni: (nods)
Teacher: Thank you for something special?...
Giovanni: (no reply)
Teacher: Thank you for what. Did she buy you something special for your birthday?
Giovanni: Buy me a bike.
Teacher: For buying me a bike? (writing) Thank you for buying me a bike. Okay?

The previous example shows how the teachers guided the child to provide a desired or correct response. Teachers
usually assisted the children to produce successful response moves. When children did not produce the desired response, teachers steered them to it, as the following example, observed with Gena during a large group activity, shows.

EXAMPLE 13

Teacher: (holds a bag) I got a little surprise here. Somebody can tell me what I got in this bag?
Berta: Toys
Teacher: Toys. Yes, these are toys. But what kind of toys. May be it is one lego? May be, let's see... Carl. You can touch it and tell me what it is.
Carl: (no reply; touches bag)
Teacher: Can you tell me what is in it?
Carl: Toy.
Teacher: What kind of toy. Something inside. What are we talking about this week.
Jesse: Dinosaur.
Teacher: Dinosaur! A toy dinosaur!

Teachers generally started a communication with a broad, general question. When children failed to respond, they employed a chain of multiple elicitation moves, which became increasingly specific. During this chain of initiation moves, teachers also became clearer in terms of the kind of answer they expected. The more specific the initiations became, the fewer linguistic skills were required by children. In modifying their questions, teachers restated and prefaced them, as in the following example, observed with Gena during large group time:
EXAMPLE 14

Teacher: What happened when you did not come last week? (pause)
Teacher: Why did you not come. (pause)
Teacher: What was it. (pause)
Teacher: Was it very cold?
Carl: Yes.
Teacher: It was very cold, that's why you did not come.

One-word, "nuclear" responses, and in some cases a child's pointing or nodding, were acceptable child responses, as I observed with Rhonda during a large group activity:

EXAMPLE 15

Teacher: What kind of bug is that? (pause)
Teacher: It is a fly. Can you say fly? What color is it? (pause)
Teacher: What color is this here? (points) (pause)
Teacher: Can you see this color? Green right? Can you show me the green color?
Lori: (Points)
Teacher: Green flies!

Nuclear or non-verbal replies were acceptable to teachers as long the responses were within a teacher-defined range of possible responses. Sometimes this range was very narrow, as the following example will show. This was an episode observed with Donna during small group time. In conjunction with her weekly theme about "community helpers", Donna had brought small wooden figure that represented a female mail-carrier.
EXAMPLE 16

Teacher: Shaquita, you can sit over to the side, here. We were talking about community helpers and all the people who work in our community. This image, what does it look like to you (holds up figure).

Maria: That's a grandma.

Teacher: It's a grandma? How about you, James. What do you think she is.

James: Hm, her a doctor.

Teacher: Good. What about you, Shana?

Shana: A mother.

Teacher: A mother? She could be a mother too.

Tania: A grandma.

Teacher: She could be a grandma, too. What do you think.

Chita: (inaudible)

Maria: That's a mailman.

Teacher: One at a time. Listen to Chita first. We are going to listen to each other today. Chita, what do you think she is doing.

Chita: (no reply)

Teacher: Hm, can you tell me? What do you think she is doing... What do you think her job is. (pause)

Teacher: One at a time. Pass it to Maria.

Teacher: What do you think, Maria, what do you think she does.

Maria: Putting on a mail-man.

Teacher: A mail-man? It is a woman, a lady. Can you pass it over to Anny? What do you think she is doing (pause). What do you think the job is?

Anny: (no reply)

Teacher: Hm?

Anny: (no reply)

Teacher: Anny, what do you think her job is.

Anny: ... 

Teacher: What do you think she does.

Anny: (no reply)

Teacher: Hector, what do you think she does? What kind of work does she do?

Hector: (no reply)

Teacher: Hm?...Okay, pass it to Chita. (no reply)

Teacher: Anny, what do you think her job is?

Anny: (no reply)

Teacher: What do you think she does?

Anny: (no reply)

Teacher: Hector, what do you think she does? What kind of work does she do?

Hector: (no reply)

Teacher: Hm? (pause) Okay, pass it to Chita.

Hector: A lion.
In the example above, a specific response, "mail lady", was expected by the teacher Donna. But this response may have been too complex for the children to grasp. The children appeared confused and responded in terms of two different concepts, gender and function. Persistently, Donna tried to steer the children to combine both concepts. In such cases, communication became labored and confused.

In summary, when teachers asked children questions, they usually predetermined the kind of answer they expected children to produce. They assisted children to produce a "correct" response through a chain of questions. They usually asked the most general and broad questions first and then modified and simplified their questions and also made them more specific.

Statements. In addition to questions, teachers also used a large number of statements to initiate communications. Statements delivered some kind of information, such as a fact, a description or an
observation, to the children. Teachers used statements in two ways: either in conjunction with a question or a directive, or as communications by themselves. The following is an example how a statement is coupled with a question, observed with Gena during a large group activity:

**EXAMPLE 17**

Teacher: The shape of the fish is big and long. Jesse, what color?
Jesse: Black.

When teachers initiated a communication with a statement alone, the context of the statement usually informed children that a response was appropriate, as in the following example, observed with Gena during a large group activity:

**EXAMPLE 18**

Teacher: (Shows a bag) Okay, I have a little surprise in here.
Berta: Toys.

In sum, I observed two different kinds of statements: teachers either coupled them with another initiation type, or they used a statement alone to elicit a response.

**Directives.** Teachers sometimes initiated their communications with a directive. Teachers used directives as follows: to convey to the children what to say, to solicit their attention, or in conjunction with a question. The following observation was a situation when teachers told children explicitly what to do or what to say:
EXAMPLE 19
Teacher: Carl, say hi.
Carl: Hi.

At other times, directives were used to solicit a child's attention as it was observed when Rhonda as played a record during a large group activity:

EXAMPLE 20
Teacher: Okay, Michael. Listen to it carefully! (plays song).
Michael: (Sings along) Little lamb. Little lamb.
Teacher: (Sings with Michael).

Directives were often followed by or coupled with questions. The following example, observed with Gena during a large group activity, shows how a directive was followed by a question.

EXAMPLE 21
Teacher: Listen to your names. What happened to Jesse yesterday?
Jesse: My stomach was very sick.

To summarize, teachers employed directives to elicit a particular response or to get children's attention. Directives were either used by themselves or in conjunction with a subsequent question.

Disciplinary Management Communications. Head Start teachers rarely employed discipline management utterances such as "listen", "be quiet" or "sit still". There were, however, some occasions when such forms were used, most
likely during the beginning of group activities. As I noted earlier, the beginning of group time was often marked by an initiation such as "are you ready?" or "let's see who is ready". These occasions were usually the only discipline initiations. Typically, children's "being ready" was a prerequisite for their participation in group activities, including their verbal participation. Teachers only nominated children who "were ready". This is exemplified in the following situation, observed with Gena during a small group activity.

EXAMPLE 22

Teacher: I see Jenny is ready. Jenny, you can tell me what color this ball is!

Follow-up Communication Types

After children produced a response, the teachers either shifted to a subsequent initiation, or used a follow-up move. Teacher follow-ups were analyzed in terms of five follow-up "types": uptake, repetitions, restatements, and evaluations. The following section will describe how frequently each of these follow-up types occurred, and a subsequent section will elaborate on each of them.

Frequency Analysis of Follow-up Types

All follow-up types were analyzed in terms of large and small groups, to determine differences based on group size. Did teachers, for example, use more uptake during large groups than during small groups? The follow-up types were
also analyzed in terms of teachers’ turn-taking allocations, e.g., did teachers use more evaluations when nominating individual children than when they interacted with the whole group?

In counting the frequency of each follow-up type, I found regularities across teachers similar to the patterns of teacher evaluations. The results are tabulated in Appendix I and summarized in Table 17.

Teachers used uptakes frequently. During large groups, uptake consisted of 50 percent of all follow-ups, and during small groups, of 37 percent of all follow-ups. In both settings, more uptakes were used when teachers nominated individual children than when teachers invited any child of the group to respond: more than twice as many during large group time more than four times as often when nominating individual children.

Teachers also repeated children's responses often. Their follow-ups consisted of 21 percent of all follow-ups during large and small groups. All repetitions were in response to individual children's replies.

As data in Table 17 show, restatements of children's responses occurred less frequently than repetitions. During large group activities, 17 percent of all follow-ups were restatements, and 16 percent during small groups. Teachers only restated utterances of individual children.

When teachers followed up with evaluations, they
typically used positive evaluations. During large group time, 20 percent of all follow-ups where positive evaluations when teachers interacted with individuals, only two percent addressed to the group. During small groups, 16 percent of teacher follow-up were positive evaluations, but only two percent were addressed to the group.

As shown in Table 17, negative evaluations of children were almost never observed during large and small group activities: teachers employed less then one percent of all follow-ups for negative evaluations with individuals and none when they addressed the group.
Table 17
Teacher Follow-ups: Communication Types

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<td>NEGATIVE EVALUATIONS</td>
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<td>ALL FOLLOW-UPS</td>
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</table>

Note: Data were collected during 71 large group and 44 small group sessions, and based on a sample of four Head Start teachers.
Characteristic Features of Follow-up Types

So far, I have described how often specific follow-up types occurred. The following section will examine some qualitative aspects of how these follow-ups were used by teachers, beginning with uptakes.

Uptakes expanded a child's response. They usually consisted of a question teachers used to gather additional information or thinking from a child. They functioned in some ways like a secondary teacher initiation and therefore has characteristics similar to teacher questions. An uptake was most likely directed at an individual child who had previously correctly responded to a primary question, as in the following example, observed with Genny during a large group activity:

EXAMPLE 23

Teacher: You played with a lego, Sandy?
Sandy: Yes.
Teacher: What did you make with the Legos?

Teachers' expansion of a child's response was often a request for a description of an item. Many uptakes were requests for a color, shape, or amounts, as in the following example, observed with Genny during a large group activity:

EXAMPLE 24

Teacher: Oh. What is this?
Lori: A snake.
Teacher: Oh, what color?
Lori: Pink.
Teachers often prefaced their uptakes as they prefaced initiations. This is shown in following episode, observed with Rhonda during large group time.

EXAMPLE 25

Teacher: James, what do you want to say to Santa.
James: I want a car.
Teacher: What kind of car?
James: Blue.
Teacher: Blue car?
James: (no reply)
Teacher: What, a real car?
James: Real car.
Teacher: You want a real car for driving? Do you know to drive a car?
Teacher: You want a toy car, right? Do you want a toy car or a real car.
James: A real car.
Teacher: A real car! That you can drive?

When a number of initiation moves preceded a child response, teachers were less likely to use uptakes. In these situations, teachers then moved on to a next subject. The following example, observed with Donna while playing with play dough during a small group activity, shows communications with two children. One child's response received an uptake by the teacher, the second did not.

EXAMPLE 26

Teacher: What are you making, Denny?
Denny: (no reply)
Teacher: What is it?
Denny: A watch.
Teacher: A watch, wow.
 (no reply)
Teacher: (to Shana) What did you make?
Shana: Ball.
Teacher: What do you do with the ball?
Shana: And I roll it and I roll it and I roll it.
Through addressing an uptake to the group, teachers re-addressed and re-engaged all children into the conversation. This strategy was especially apparent when the primary question also invited any child to respond. The following event was observed with Gena and illustrates how all-group questions lead into all-group uptakes:

**EXAMPLE 27**

Teacher: You can see different kind of fish. What are the colors of the fish?
Mike: I know: white.
Teacher: White, very good. Any other color?
Dan: Black. And white.
Teacher: Yes. And what about this color?

In sum, uptakes functioned like secondary questions. They expanded a child response, mostly when the initial response easily produced.

**Repetitions.** All teachers repeated the children's responses frequently. Repetitions functioned in one of two ways: to as to confirm, and to close a conversation with a particular child, or to expand it. A typical form of repetition as closure was observed with Rhonda during a large group activity:

**EXAMPLE 28**

Teacher: What did you do at the art table?
Tania: I made a necklace.
Teacher: You made a necklace! What did you make, Jenny?

The majority of teacher's repetitions were directly followed up by a subsequent teacher initiation move. Occasionally, repetitions provided opportunities to extend a
communication and functioned like an uptake, as the following example shows, observed with Donna during small group time:

EXAMPLE 29

Teacher: Where are Santa's helpers?
Dan: They are making toys.
Teacher: They are making toys.
Cory: They are mixing the stuff.

Instead of repeating, teachers frequently restated children's responses. Restatements involved a change of the child's response, as the following example, observed with Donna during small group time shows:

EXAMPLE 30

Teacher: What is this, Maria?
Maria: A Owl.
Teacher: An owl. Are owls being awake during the day time?

We notice a minor correction of the child's response. In other situations, teachers took the opportunity of turning a child's nuclear response into a sentence, as the following example shows:

EXAMPLE 31

Teacher: Where did you play today, Tania?
Tania: Pretend area.
Teacher: In the pretend area. And what did you do there?

A third kind of restatement occurred when children did not precisely deliver the answer the teacher expected, as observed during the same session:
EXAMPLE 32
Teacher: What do you think is in the eggs?
Tania: A baby.
Teacher: Baby birds. And what do you think mommy is doing?

In other situations, teachers articulated children's non-verbal responses, as the following example illustrates:

EXAMPLE 33

Teacher: What did you play today, Kay. Hm?
Kay: Points
Teacher: In the pretend area? And what did you do there?

The previous examples demonstrate a variety of restatement formats, and they also highlight that restatements are frequently used in conjunction with another type of follow-up. Restatements themselves occasionally functioned as uptakes, as the following example, observed with Donna during a small group activity, shows.

EXAMPLE 34

Tania: I buy a bird.
Teacher: Hm?
Tania: I buy bird.
Teacher: You bought a bird?...
Maria: My dad my dad my dad got a big big dog... And he bit.

The previous case is of particular interest because Donna's restatement of Tania's utterance led to a subsequent child initiation. This was achieved through the teacher's question-like intonation and a brief moment of silence.

In sum, teachers restated children's responses to correct, complete, and in some cases also to expand a
As the data in Table 17 show, teachers generally did not evaluate many children's responses verbally. In situations when teachers did use an evaluation, it was most likely a positive one. Teachers did not use a large number of overt criticisms. Below is an example of a positive evaluation, observed during a small group session with Gena:

**EXAMPLE 35**

Teacher: May be you can draw a fish.
Jesse: I made a little fish.
Teacher: Oh, that's nice, your fish looks so happy.

Teachers usually did not provide negative evaluations, even when a child response was not a "correct" one. As discussed previously, teachers either ignored those responses, restated their questions, or restated the child response. Sometimes these "corrections" came in conjunction with a positive teacher evaluation. This situation was observed during a picture book reading with Donna.

**EXAMPLE 36**

Teacher: Does it look as if he is looking at the giraffe?
Maria: I think he looking at him.
Teacher: They are looking at each other, that's right.

The subsequent example is one of few situations of a negative evaluation, observed with Rhonda during a large group activity:
EXAMPLE 37

Teacher: (Holds Puppet)
Dan: That's Santa!
Teacher: No. That is not Santa, this is my friend Wilbert.

In summary, in using a follow-up, teachers were regaining the "floor" after a child's response. The types of follow-ups functioned in two basic independent and distinct ways: either the communications were expanded, or the communications were closed and a new topic was introduced. When follow-ups functioned as a closure of a communication, teachers used them to signal a departure, or to frame a boundary, for the communication exchange that had taken place.

Categories of Teacher Questions

Because questions dominated in teacher-child communications, this section will further examine this communication type. I will determine the kind of cognitive demands teachers requested of the children. The total body of teacher questions were classified in terms of two broad categories, based on predetermined functions. As discussed in Chapter III, questions that required children's recall skills were classified as "Category A" questions. These were questions that asked children to recall a fact or to identify something. They included questions about what has been learned before. "Category B" questions asked children to make choices, give opinions, solve problems, and demonstrate curiosity, and required children to think. A
third category was established for all other questions, such as procedural questions or questions analysis that were ambiguous in terms of the function. In the following section, I will present how frequently questions in each of these categories occurred. A subsequent section will describe some qualitative features of each of them.

**Frequency Analysis of Categories of Questions**

In inquiring how often question categories A, B, and C occurred, I was interested in whether different categories of questions dominated in large or small group settings. Did teachers ask more "recall" questions than "thinking" questions when working with large groups than with small groups? I also wanted to investigate if teachers questioning practices differed when they nominated individual children or invited any child in the group to reply. The findings of this analysis are summarized in Table 18 (Appendix J shows question categories observed per teacher).

The majority of all teachers' questions fell into "Category A". During large group activities, 80 percent, and during small group activities, 68 percent were "recall" questions. Teachers used more "Category A" questions through nominations of individuals than through invitations to any child to reply. This pattern was observed independent of group size. However, "thinking" questions were even less likely to occur during large group time than
during small group activities: 12 percent of teachers' questions posed during large groups and 23 percent during small groups were "Category B" questions (see Table 18). In both settings, teachers used Category B questions more frequently when teachers nominated individual children than when teachers invited any child in the group to respond.

In collecting all "other" questions into "Category C", I found that these accounted for two percent of all questions posed during large group and nine percent of questions during large groups.
Table 18

Questions: Classified by Categories

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Note: Data were collected during 71 large group and 44 small group sessions, and based on a sample of four Head Start teachers.

Qualitative Features of the Categories of Questions

"Category A" questions required children to remember information or recognize information that teachers assumed the child should have. When teachers asked for recalling a fact or identifying something, they usually began with who ("who is this person?"), what ("what do you see in this..."
picture?"), where ("where is the bug?") or how much ("how many sticks do I have?"). Many of these questions involved recognizing a color, numbers, and shapes, or remembering an event ("what happened yesterday?"). High/Scope recall questions fell into this category ("what did you do today?"). For essentially all of Category A questions, teachers had a "correct" answer in mind and was seeking a congruent response by the child.

**EXAMPLE 38**

Teacher: What do we do first, when we come to the classroom?
Britta: Eat.

Category B were questions that sought responses of a more divergent outcome than Category A questions. They either asked for a child's opinion, an explanation, or a decision. These questions typically began with why ("why did you go to the doctor?") which ("which color do you like best?") or where ("where are you going to play?"). High/Scope activity planning fell into this category. Many Category B questions involved children's preferences about something, as the following example, observed with Gena during small group time, will demonstrate:

**EXAMPLE 39**

Teacher: Tomorrow we want to go to the zoo. What do you want to see in the zoo?
Jesse: I want to see the elephants.
Sometimes teachers asked for children's opinions, as the following example, observed with Donna during large group activity, shows:

**EXAMPLE 40**

Teacher: Which color do you like, Chita?
Chita: Yellow.
Teacher: You like the yellow?

I established previously that in many Category A, or "recall" questions, teachers had a predetermined response in mind. Similar patterns were found when teachers asked Category B questions. Often, when asking for children's "thinking" responses, teachers also had a particular answer in mind, as the following example, observed while Donna read a story during a large group activity.

**EXAMPLE 41**

Teacher: Oh my god, the Easter Bunny is getting sick, and he has to deliver the Easter Eggs to the children. And he is sick! What do you think is going to happen.
Maria: He is going to put it in the mail box.
Teacher: He is going to put it in the mail-box? Who do you think is going to do it?
Tania: He is going to sleep.
Teacher: He is going to sleep? What do you think, John, he is going to do? He is sick, and he cannot deliver the Easter Basket. What do you think he is going to do? What do you think, he is going to do, Chita?
Chita: Going to wake up.
Teacher: Going to wake up? What do you think, Kay?
Kay: Going to use it.
Teacher: Well, lets see what happens.

As shown in the previous example, teachers often asked children to "guess" a response teachers already had
determined. Instead of encouraging children to develop their own story, the teacher seemed to aim for a particular response. Similar patterns were even apparent in choice questions, e.g. in High/Scope style "planning" sessions, as observed with Donna during small group activity.

EXAMPLE 42

Teacher: Hector, what do you want to play today?
Hector: I want to play with the blocks.
Teacher: Ah, in the block area. Okay, go.

In Category C, or "other", questions, I collected questions that did not fit the profile of the previous categories. Most of Category C questions involved a procedure teachers articulated in question form, as observed with Genny during large group activities:

EXAMPLE 43

Teacher: Does somebody want to count?
Jeremy: Me.

To summarize, more of teachers' questioning moves involved children's "recall" skills than children's "thinking" skills, and in both categories of questions, the teachers seemed to have a predetermined response in mind. Teachers did not seem to respond to what children had to say and paid attention to children's responses only when these complied with the teachers' premeditated range of responses.
Applications of Communication Types in Games and Songs

Much group time involved a variety of songs and games which consisted of verbal interplays between teachers and children. I was interested how the communications in such games and songs compared with other teacher-child communications during group activities.

I found that interactive songs and games contained many features similar to those already described. For example, children were routinely greeted with the following song:

EXAMPLE 44

Teacher: Where is Hector, where is Hector?
Hector: Here I am.
Teacher: How are you today, sir?
Hector: Very well and thank you.
Teacher: Please sit down, please sit down.

A question-initiation by the teacher was followed by a child response, a teacher follow-up uptake, a child response, and a directive follow-up. A number of children, especially in the beginning of the school year, failed to produce a response. In those cases, teachers assisted the child by reformulating their initiations, as the following example, observed with Donna during large group time, shows:
EXAMPLE 45

Teacher: Where is Chita, where is Chita?
Chita: (no reply)
Teacher: Can you say, here I am?
Chita: (no reply)
Teacher: Say, here I am.
Chita: Here I am.
Teacher: How are you today, Chita?
Chita: (no reply)
Teacher: Very well, and thank you. Please sit down.

In summary, a number of the previously discussed variants of initiation and follow-up types were present in many of the songs and games that were routinely part of group time.

**Communication Complexity**

The length of teachers' communications with individual children was measured in terms of communication "complexity". As it was discussed in Chapter III, each communication exchange between teachers and children, consisting of various initiations, responses and follow-ups, was defined as a communication unit. Earlier discussions showed that teachers often employed multiple initiations and follow-up exchanges. To measure the "length" of the communications, all exchanges between each teacher and each individual child within a given communication unit were counted. For example, a teacher-child communication unit consisting of one initiation, one response and one follow-up, totalling three exchanges, received a complexity rating of "3".
Frequency Analysis of Complexity

I found some complexity variations across teachers. (A subsequent section of this chapter will analyze the ranges of complexity with individual children.) Mean complexity, based on the total body of exchanges that were observed with each teacher, was 3.1 for Rhonda, 2.5 for Gena, 2.4 for Louise, and 3.2 for Donna (see Table 19). These findings indicate that Rhonda and Donna both carried out more sustained communications with individual children than Gena and Louise did.

Table 19
Communication Complexity, Measured in Number of Teacher-Child Exchanges Within a Unit

<table>
<thead>
<tr>
<th></th>
<th>CLASSROOM I</th>
<th>CLASSROOM II</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RHONDA</td>
<td>GENA</td>
</tr>
<tr>
<td>NUMBER OF OBSERVED COMMUNICATION UNITS</td>
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<td>688</td>
</tr>
<tr>
<td>MEAN NUMBER OF EXCHANGES WITHIN EACH UNIT</td>
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<td>2.5</td>
</tr>
</tbody>
</table>

Note: The data are based on 20 large group observations with Rhonda, 14 with Gena, 15 with Louise, and 22 with Donna.
Characteristic Features of Complexity

One part communication units usually consisted of initiations that did not receive children's verbal responses. These were either initiations that did not require a verbal response, such as discipline management, or procedural questions ("are you ready?"). They also include initiations that asked for a reply, to which children did not respond.

Many communications consisted of three exchanges, typically through an initiation, a response and a follow-up. This was exemplified by Gena as follows:

EXAMPLE 46

Teacher: How many sticks do you have, Cory?
Cory: A lot.
Teacher: You have a lot!

More complex communications were achieved in two ways: teachers either used a series of initiation moves, or they extended a communication by using a number of follow-ups. The following example is a "complex", six part communication unit that contained of a number of follow-ups. This conversation was observed with Louise during a large group activity:

EXAMPLE 47

Teacher: So, my hands got dirty, What shall we do?
Maria: Wash it.
Teacher: What are we going to wash it with?
(no reply)
Teacher: What do you put on your clothes to wash them?
Maria: Soap.
Teacher: Soap!
The following excerpt of a communication with Rhonda shows another "complex" seven exchange communication unit that included a sequence of follow-ups.

EXAMPLE 48

Teacher: Okay, remember, we are talking about community helpers? Let me see, can you tell me something about this picture?
Jesse: A ladder.
Teacher: A ladder for the fire, right? And what are they doing?
Jesse: Put water on.
Teacher: They are putting some water on, right? And on what do they put it on?
Jesse: Escuela.
Teacher: She said it in Spanish, an escuela, a school, right?

Summary

Teachers employed more interactions with individual children when they worked with small groups than when they worked with large groups. Children rarely initiated communications. There were structural regularities in terms of specific initiation and follow-up types teachers used. Teachers initiated communications primarily through questions, statements, and sometimes through directives. These communication types often overlapped in terms of functions, or they were used in conjunction with each other. More "recall" than "thinking" questions were posed by teachers. Teachers rarely employed disciplinary management communications. An analysis of text demonstrated teachers' persistence in soliciting responses from children. Teachers typically predetermined the type of child response they
expected. They tended to preface their initiations, typically from the most general to the least general, and teachers increased specificity in their initiations when children failed to deliver expected responses. Teachers seemed to pay attention to children's responses only when these were within teachers' premeditated and predetermined range of responses. Teachers frequently used the follow-up types of uptake, repetition, or restatement. They rarely evaluated children's responses overtly, and when they did, they used positive evaluations.

Even though these patterns generally occurred independently from group size, I found that children communicated with each other more often and initiated more communications during small groups. In addition, I found that small groups were slightly more conducive to questions and uptake through nominations of individual children, and that teachers asked more "thinking" questions during small group than when working with large groups. Lastly, I described teacher-child communications in terms of complexity, measured by the number of exchanges within a communication unit.

Communication Variations with Individual Children

So far, the analysis has focused on how teacher communicated with children in general. The following section will examine if teachers communicated with all children equally, or if they differentiated their
communications with individual children. This discussion consists of two parts. First, I will ask if teachers' communication frequency varies with individual children. Second, I will investigate if there were variations in terms of complexity of communications with individual children.

Frequency of Communications

To establish if teachers communicated more often with some children than with others, the total body of communications between each teacher and each child was counted. Data were analyzed during small and large group activities. The results for large groups are presented in Table 20, and for small group in Table 21.

Large Group Activities. As the data in Table 20 indicate, the mean number of communications between each of the teachers with individual children varied considerably. On average, Rhonda communicated with Dan more than 11 times per session, nine times with Mike, and less than once with Luis and Danny. Gena also communicated most frequently with Dan, almost seven times per session. She communicated less than once with Gina, Louis and Sadan. Substantial communication variations were also present with Louise and Donna even though they were not quite as large as with the previous teachers: Louise communicated on average more than three times with Dennis and about two times with Maria and John, but less than once with Kay and John. I observed five communications between Donna and Mike and four with Maria,
but only one with Heylim and Denise.

Table 20

Frequency of Teacher Communications with Individual Children: Means per Large Group Activity

<table>
<thead>
<tr>
<th>CLASSROOM I TEACHERS</th>
<th>CLASSROOM II TEACHERS</th>
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<tr>
<td>CHILD</td>
<td>RHONDA</td>
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<td>BERTA</td>
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<td>BRITTA</td>
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<td>GINA*</td>
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<td>ITONA*</td>
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<td>JAMES</td>
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<td>JEREMY</td>
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<td>JESSE</td>
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<td>SANDY</td>
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*Children who participated for a short time in the program

Note: Data are based on 20 large group observations with Rhonda, 14 observations with Gena, 15 with Louise, and 22 with Donna. All data were adjusted for individual children's attendance.

Similar communications were observed during small group activities. As data in Table 21 show, Rhonda's communication varied from more than seven times to only slightly more than once, for Gena from more than four times to less than once, for Louise from four times to less than
once, and for Donna from more than nine times to once per small group activity.

Table 21

Frequency of Teacher Communications with Individual Children: Means per Small Group Activity

<table>
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<tr>
<th>CLASSROOM I</th>
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<tr>
<td>LORY</td>
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</tr>
<tr>
<td>LUIS</td>
<td>0.3</td>
</tr>
<tr>
<td>SANDY</td>
<td>1.0</td>
</tr>
</tbody>
</table>

* Children who participated for a short time in the program

Note: Data are based on 15 small group observations with Rhonda, 9 observations with Gena, 9 with Louise, and 11 with Donna. The data were adjusted for individual children's attendance.
In sum, there is evidence that in terms of frequency, teachers varied their communications with individual children; all teachers communicated more frequently with some children than they did with other children.

**Complexity of Communications**

In addition to how frequently teachers talked with children, I was interested in the complexity of teachers' communications with individual children. As discussed previously, complexity was measured in terms of the number of teacher-child exchanges within each communication unit, including all initiations, responses, and follow-ups. Data were analyzed in terms of large and small group activity settings.

As shown in Table 22, the following complexity variations were found during large group activities: Rhonda averaged from two to more than three exchanges, Gena from two to almost three exchanges, Louise from less than two to four exchanges, and Donna from less than two to more than four exchanges with individual children per session.
Table 22

Communication Complexity with Individual Children: Means per Large Group Activity

<table>
<thead>
<tr>
<th>CLASSROOM I</th>
<th></th>
<th></th>
<th>CLASSROOM II</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD</td>
<td>RHONDA</td>
<td>GENA</td>
<td>CHILD</td>
<td>LOUISE</td>
<td>DONNA</td>
</tr>
<tr>
<td>BERTA</td>
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<td>2.1</td>
<td>ANNY</td>
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</tr>
<tr>
<td>BRITTA</td>
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<td>DENISE</td>
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<td>2.6</td>
</tr>
<tr>
<td>DAN</td>
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<td>2.6</td>
<td>DENNIS*</td>
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<td>HEYLIM</td>
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<td>MARIA</td>
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<td>MIKE*</td>
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<td>3.0</td>
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<td>LILLY</td>
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<td>SHANCA*</td>
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</tr>
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<td>MIKE</td>
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<td>3.1</td>
<td>Tania</td>
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<tr>
<td>SADAN</td>
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<tr>
<td>SANDY</td>
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<td>2.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Children who participated for a short time in the program.

Note: Data are based on 20 large group observations with Rhonda, 14 observations with Gena, 15 with Louise, and 22 with Donna. The data were adjusted for individual children's attendance.
In investigating communication complexity during small group activities, I again found substantial variations. As shown in Table 23, Rhonda averaged from less than three to more than six exchanges, Gena from less than one to more than three exchanges, Louise from less than one to more than three, and Donna from three to more than four exchanges with individual children per session.

Table 23

Communication Complexity with Individual Children: Means per Small Group Activity

<table>
<thead>
<tr>
<th>CLASSROOM I</th>
<th>CLASSROOM II</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHILD</td>
<td>RHONA</td>
</tr>
<tr>
<td>BRITTA</td>
<td>3.7</td>
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<td>CARL</td>
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<td>CORY</td>
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<tr>
<td>GINO</td>
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<td>JAMES</td>
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<td>JERRY*</td>
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<td>MIKE</td>
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<td>SADAN</td>
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<td>SANDY</td>
<td>2.8</td>
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</tbody>
</table>

*Children who participated for a short time in the program.

Note: Data are based on 15 small group observations with Rhonda, 9 observations with Gena, 9 with Louise, and 11 with Donna. The data were adjusted for individual children's attendance.
To summarize, the previous section demonstrated the occurrence of differential communications with individual children in terms of both communication frequency and complexity.

Teacher-Child Communications and Teacher Assessment of Individual Children

Now we arrive at the question of whether communication variations appeared to be related to teachers' perceptions of individual children's competence. This discussion consists of two segments. First, I will establish how teachers arrived at their perceptions of individual children and what some of the factors were teachers considered when they formed their judgements. These data were derived from teacher interviews. A second segment will return to the analyses of classroom observations and contrast and describe communications with children teachers ranked "high" and children they ranked "low".

Teacher Ranking of Children

Each teacher was asked to rank children into five categories according to children's overall competence: highest, high, medium, low, and lowest. This measure was applied three times during the year; in the beginning, in the middle, and toward the end of the school year. As it was discussed in Chapter III, the criterion for ranking was based on teachers' ranking on global perceptions of each child's overall competence. (Appendix K shows how each
teachers ranked all children each time.) A large number of the children remained in the same category throughout the year. When positions within the ranking scale did change, these variations were most likely upgrades of one category within the scale, e.g., from a lower to a middle position. A small number of children were moved into a lower position, and only two children changed two positions. Briefly, the ranking resulted in consistent clusters and established the bases for "high" and "low" group children.

Even though there were some variations between teachers, the teachers who worked together ranked the same children in similar ways; in particular the children they ranked at the upper and lower spectrum where within the same category.

**Teachers' Methods of Establishing Perceptions About Individual Children**

Open ended interview questions explored teachers' perceptions about individual children and how they arrived at their judgements in ranking children. A first question asked how quickly the teacher's judgment was formed. Teachers varied in answering this question, from a few days for Gena up to several month for Rhonda. All teachers were aware that for some children, it takes a longer time to get to know them than it does for others. As Donna explained:
With me it takes about...I would say at least three weeks, because three weeks are enough time to see the child. That is to tell where the child is at. Three weeks, for me, I can tell, because I worked in plenty of schools and have observed children a lot of time.

A second question determined how teachers arrived at their judgements about children. All teachers used a combination of observation strategies. They watched individual children informally and looked at children's responses when interacting with them. Donna explained:

I find out just by watching and asking them a lot of questions. I interact with them, and sometimes when I feel I don't understand them when I am observing them, I would go over and ask them, can you tell me about that?

In asking what measures teachers used to verify their judgements, they mentioned that they usually exchanged observations with their colleague teachers. Formal observation and assessment tools were never mentioned by any of the teachers even though they were required by the Head Start administration to complete the COR ("Child Observation Record", a High/Scope assessment instrument).

A third question asked if teachers ever changed their mind about individual children. The teachers, with the exception of Donna, said that they had sometimes re-adjusted their opinions about children, and supplied examples of situations when they had changed their opinions about a child. Louise reflected how she initially misjudged a child
and described this experience in the following way:

I worked with Rhonda last year. We went and visited this child at home, he was up the wall all over his house, and when we left I said: 'Oh, Rhonda, this child in the classroom, oh no!' But in the classroom, he was very quiet, a really good child.

To summarize, teachers required different amounts of time to get to know the children in their classrooms, arrived at their judgements primarily through informal observations and interactions with children, sometimes revised their judgements, and discussed these judgements informally with their co-teachers.

Descriptors Teachers Used for Individual Children

The interview questions asked teachers to describe all individual children ("tell me about child X"). The interviews were analyzed in terms of descriptors teachers typically used when they talked about the children. The objective was to determine what attributes teachers naturally used when they thought about children. This analysis was also used in investigating what elements determined teachers' decisions when they ranked the children according to their overall competence.

It was evident that all teachers described the total child, but they stressed different child characteristics with different children. Teachers' focus was not on the deficits of children, and they tended to employ positive descriptors of each child. Even with children teachers ranked low, very few "negative" child attributes were
The following section will summarize and illustrate recurrent descriptors chosen by each teacher. These descriptors were broadly defined and fell into the following categories: children's language skills, social skills, their home environment, emotions, cognitive (other than language) abilities, progress observed by the teacher during Head Start, and their behavior in the classroom. Table 24 sorts these descriptors by frequencies reported by each of the teachers.

All teachers alluded to children's language skills most frequently. When I posed the open ended question: "tell me about child X", teachers usually began to describe the way child talks, especially when a child was seen as being articulate. Teachers used this descriptor in two ways; either in reference to children's linguistic ability, ("Her English is clear"), or their ability to communicate with others, ("He tells me, 'I want legos'`).

Of special concern were children who spoke little or no English. The proportion of children for whom English was not their native language was about 85 percent in both classrooms. Yet, children's English language skills varied greatly. According to my own informal observations, children who started out with relatively well developed knowledge of English language in the beginning of the year seemed to become progressively more skilled in English, but
others, who did not start out with good English skills, did not seem to make much progress. I asked all teachers why they thought some children were more fluent in English others; all four thought that children who had good English skills had a parent, older sibling or other relative at home who deliberately "worked" with them in acquiring English.

In addition to children's language skills, teachers frequently focussed on children's social development. Teachers seemed to be concerned with children's ability to share equipment and toys with other children. They also discussed children's ability to work with other children collaboratively on a project.

As shown in Table 24, teachers often spoke about children's home environments, in particular as explanations for children's problems teachers had observed in the program ("All he does at home is watch soap operas"). Children's home was also mentioned in other contexts, for example when mothers volunteered in the Head Start. This was seen as a positive aspect of the child.

Teachers did not converse often about children's emotional development. When they did talk about children's emotions, they did so most frequently concerning children who teachers experienced as being happy, loving or friendly. ("Tania always is very upbeat, very smily all the time").

A fifth teacher focus was on children's cognitive abilities. Usually, a child was described with a global
statement, such as "she is really smart" or "he is very bright". When teachers were asked to describe how a child is smart, they most often described an activity the child had succeeded in completing, such as putting together a puzzle. (Even though teachers were required to produce the High/Scope Child Observation Record, cognitive child variables emphasized in this instrument, such as "seriations", "temporal relations", or "spacial relations", were not mentioned during any of the interviews.)

Sometimes, teachers commented about individual children's progress in the Head Start program ("Finally Frank has learned to sit down"), or their lack of progress ("James still has not learned to ask for help").

Only occasionally teachers described children's overall classroom behavior. They mentioned this aspect of children only when there was a serious concern about a child, such as the ability to follow rules.

Originally, the interviews were coded for two additional characteristics, children's physical appearance and children's play behavior. These characteristic have been dropped because children's play behavior was described five times and children's appearance surfaced only four times during all interviews.
Table 24
Descriptors of Individual Children, Based on Frequency of Their Occurrence During Teacher Interviews

<table>
<thead>
<tr>
<th></th>
<th>RHONDA</th>
<th>GENA</th>
<th>LOUISE</th>
<th>DONNA</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANGUAGE SKILLS</td>
<td>19</td>
<td>79</td>
<td>35</td>
<td>19</td>
<td>152</td>
</tr>
<tr>
<td>SOCIAL SKILLS</td>
<td>11</td>
<td>51</td>
<td>27</td>
<td>21</td>
<td>110</td>
</tr>
<tr>
<td>HOME ENVIRONMENT</td>
<td>8</td>
<td>35</td>
<td>15</td>
<td>7</td>
<td>65</td>
</tr>
<tr>
<td>EMOTIONAL DEVELOPMENT</td>
<td>8</td>
<td>25</td>
<td>10</td>
<td>10</td>
<td>53</td>
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<tr>
<td>COGNITIVE SKILLS</td>
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<td>21</td>
<td>12</td>
<td>10</td>
<td>45</td>
</tr>
<tr>
<td>PROGRESS CHILDREN MADE</td>
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<td>18</td>
<td>4</td>
<td>4</td>
<td>32</td>
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<tr>
<td>BEHAVIOR</td>
<td>2</td>
<td>8</td>
<td>11</td>
<td>11</td>
<td>30</td>
</tr>
</tbody>
</table>

Note: Each of the teachers was interviewed four times. Interview questions were open ended and began with "tell me about child X".

Characteristics of the Target Children

The research question targets groups of three children ranked by each classroom teacher as being at the highest and the lowest level of overall competence. (Appendix L shows narrative form descriptions of all 24 target children, based on interview data.)

The following patterns emerged: Teachers judged as "highs" children whose language development, and in particular their English language skills, were seen as
advanced. The "highs" also were active, friendly children. They were capable of sharing and turn-taking. An interview excerpt, recorded when Louise described a "high" child, Tania, shows some of these elements:

Tania is very active. She has good language skills. They speak 'Bangladesh' at home. But her father speaks English. So I think they speak both (languages) at home. She is really good. She is very outgoing and she mostly hangs around with Kay. So that is good for Kay because Kay is very quiet. Tania is helping her to come out more. And Tania communicates well with children and adults. If something is bothering her, she would use her words. She is a little overactive, jumps around a lot. And her motor development is a little behind. You notice that when she runs, her hands are always like this and she holds the pencil like that.

A principal common characteristic of the children who teachers ranked at the lowest levels of overall competence was that they did not often participate in verbal classroom activities. Below is Louise's description of a child she ranked "low".

Interviewer: How about James?
Teacher: He is always smiling. He looks like a very happy child. And his language is very delayed for his age.
Interviewer: Even in Spanish?
Teacher: Delayed. He knows how to put sentences together, but the words do not come out the way they should. Words he sometimes tells me, I cannot understand. That also has been mom's concern. I am wondering if she is neglecting him, I am not sure. I noticed them once in a store and she was looking at things and James was calling her. He was doing a lot of talking and she did not pay any attention to him.

Teachers ranking seemed to be at least to some extent influenced by children's English language skills. Teachers
ranked more children who were not very fluent in English in low categories than in higher categories, including those teachers whose own language background was similar to that of the children.

In sum, teachers arrived at their judgement of high and low ranking through informal observations. They used a variety of descriptors when talking about children. The characteristics teachers mentioned most frequently were children's language and social skills.

**Teachers' Communications With "High" and "Low" Children**

I wanted to determine if teachers differentiated their communications with children they ranked "high" and those they ranked "low". This was analyzed by tabulating means, per observation day, on communication frequency and complexity, based on communications between each teacher the three target children and each teacher judged as "high" and "low" in terms of competence.

As was previously discussed, communication frequency was measured in terms of the occurrence of communication units, consisting of initiations, responses and follow-ups. Complexity was measured in terms of the number of exchanges within each unit. The analysis was done in large and small group context.
Frequency of Communications with Target Children

The data, displayed in Table 25, show that teachers communicated more frequently with children they ranked "high" than those they ranked "low". For example, Rhonda communicated during large group activities on average 9.7, 5.1, and 4.8 with the children she had ranked high, and 1.2, 0.9, and 2.1 times with children she ranked low. During small groups, she communicated on average 7.8, 4.7, and 7.9 times with children she had ranked "high" and only 1.9 times with a child she ranked low (only one child she ranked "low" was in her small group). Similar patterns were found with all teachers: Children whom they had ranked as "high" also received a large number of communications, and fewer instances of communications were found with children teachers judged to be "low".

Complexity of Communication with Target Children

As Table 25 shows, teachers carried out more sustained, or "complex" communications with "highs" than they did with "lows". During large groups, Rhonda's communications with the "highs" averaged between almost 3.5, 3.2, and 2.9 exchanges, but with "lows", her communications consisted of 2.1, 2.8, and 2.5 exchanges. During small groups, Rhonda carried communications consisting of 2.5, 2.9 and 3.7 exchanges with "highs"; with a "low" child, a complexity rating of 2.2 was found. As data in Table 25 demonstrate, similar communications were observed with all teacher-child
communications. Teachers, on average, carried out longer, more sustained communications with "highs" than with "lows". One exception was found with Gena who, during small groups, carried out slightly more complex communications with one "low" child than with one "high" child.
Table 25

Mean Frequency and Complexity of Communications: Correlations with Children Teachers had Ranked "High" and "Low"

<table>
<thead>
<tr>
<th></th>
<th>MEAN FREQUENCY OF COMMUNICATIONS</th>
<th>MEAN COMPLEXITY OF COMMUNICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LARGE GROUP</td>
<td>SMALL GROUP</td>
</tr>
<tr>
<td>RHONDA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIGH</td>
<td>MIKE</td>
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<td></td>
<td>CARL</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>BRITTA</td>
<td>4.8</td>
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<td>LOW</td>
<td>BERTA</td>
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<tr>
<td></td>
<td>DANNY</td>
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</tr>
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<td></td>
<td>SADAN</td>
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</tr>
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<td>GENA</td>
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<td>HIGH</td>
<td>DAN</td>
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<td></td>
<td>MIKE</td>
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<td></td>
<td>JESSE</td>
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<td>DANNY</td>
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<tr>
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<td>LUIS</td>
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<td></td>
<td>SADAN</td>
<td>0.7</td>
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<tr>
<td>LOUISE</td>
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<tr>
<td>HIGH</td>
<td>MARIA</td>
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<tr>
<td></td>
<td>JOHN</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>Tania</td>
<td>1.7</td>
</tr>
<tr>
<td>LOW</td>
<td>FRANK</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>KAY</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>JAMES</td>
<td>0.6</td>
</tr>
<tr>
<td>DONNA</td>
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<tr>
<td>HIGH</td>
<td>Tania</td>
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<td></td>
<td>MARIA</td>
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<td>LOW</td>
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<tr>
<td></td>
<td>KAY</td>
<td>1.3</td>
</tr>
<tr>
<td></td>
<td>JAMES</td>
<td>1.3</td>
</tr>
</tbody>
</table>

*Children were not part of the teacher's small group.
Note: Data are based on 20 large group observations with Rhonda, 14 observations with Gena, 15 with Louise, and 22 with Donna. The data were adjusted for individual children's attendance.
Communication Types Employed With Target Children

The following section investigates whether teachers used specific communication types with the target "high" and "low" competence children. As was discussed previously, this study analyses communications in terms of four initiation types: questions, statements, directives, and management communications, and four follow-up types: uptake, repetitions, restatements and evaluations.

Teacher Initiation Types by Nominations. I was interested how teachers nominated individual "high" and "low" children, and analyzed the occurrence of teacher questions, statements, directives and management communications with these target children. I found few cross-teacher variations, and the data of all teachers were pooled and summarized in Table 26. (See Appendix M for data per teacher and per target child).

On average, teachers used all initiation types more frequently with each of the "high" children than with each of the "low" children. As shown in Table 26, teachers asked "highs" an average of 2.6 questions whereas they asked "lows" only an average of 1.7 questions. Only small differences were found in terms of statements and directives; teachers used an average of 0.9 directives with "highs" and 0.6 with "lows", and 0.8 statements with highs and 0.5 with lows. They used 0.6 discipline communications with high but only 0.1 with "lows".
Table 26

Initiation Types by Nominations of Target Children: Means per Large Group Activity

<table>
<thead>
<tr>
<th></th>
<th>&quot;HIGHS&quot;</th>
<th>&quot;LOWS&quot;</th>
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</thead>
<tbody>
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<td>QUESTIONS</td>
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<td>DIRECTIVES</td>
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<td>0.6</td>
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<td>STATEMENTS</td>
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<td>0.5</td>
</tr>
<tr>
<td>DISCIPLINE MANAGEMENT</td>
<td>0.6</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Note: N=12 in each category, combining 3 "highs" and 3 "lows" as ranked by each of 4 sample teachers.

Teacher Follow-up Types by Nominations. I also analyzed follow-up types to investigate if differences were present when teachers nominated "high" and "low" children. Data on follow-ups, including teacher uptake, repetitions and restatements, and positive and negative evaluations showed few variations across teachers, and are summarized in Table 27. (See Appendix N for complete tabulation of data per teacher and per target child.)

On average, all follow-up types were used more frequently when teachers nominated "high" than when they nominated "low" children. Teachers used an average of 2.4 uptakes with "highs" and 0.6 with "lows", 1.5 restatements with "highs" and 0.3 with lows, 2.7 repetitions with "highs"
and 0.3 with "lows". They evaluated "high" children's responses positively 1.8 times and 0.2 times negatively. The "lows" were evaluated 0.4 times positively, basically no negative evaluations of "lows" were found.

Table 27

Follow-up Types by Nominations of Target Children: Means per Large Group Activity

<table>
<thead>
<tr>
<th></th>
<th>MEAN FREQUENCIES PER DAY DURING LARGE GROUP ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&quot;HIGHS&quot;</td>
</tr>
<tr>
<td>UPTAKE</td>
<td>2.4</td>
</tr>
<tr>
<td>RESTATEMENTS</td>
<td>1.5</td>
</tr>
<tr>
<td>REPETITIONS</td>
<td>2.7</td>
</tr>
<tr>
<td>POSITIVE EVALUATIONS</td>
<td>1.8</td>
</tr>
<tr>
<td>NEGATIVE EVALUATIONS</td>
<td>0.2</td>
</tr>
</tbody>
</table>

Note: N=12 in each category, combining 3 "highs" and 3 "lows" as ranked by each of 4 sample teachers.

Communication Types by Teachers' Invitations to Any Child to Reply

As discussed previously, teachers often addressed communications to all children and invited any child to reply. I wanted to find out if more "high" children than "low" children replied to teachers when they invited any child to reply. I analyzed two relevant communication types: questions and uptake. These analyses showed similar
results across teachers, and are summarized in Table 28. (Appendix N shows tabulations per teacher, per target child.)

The data show that, on average, there were substantially more communications with "high" children than with "low" children when teachers addressed questions and uptakes to all children. When they posed questions, they were answered 3.1 times by "higns" and almost not at all by "lows". Uptakes, when addressed to all children, were responded to two times by "highs" and almost never by "lows".

Table 28

<table>
<thead>
<tr>
<th>Questions and Follow-ups by Invitations of Any Child to Reply: Means per Large Group Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Questions</td>
</tr>
<tr>
<td>Uptake</td>
</tr>
</tbody>
</table>

Note: N=12 in each category, combining 3 "highs" and 3 "lows" as ranked by each of 4 sample teachers.
Child Initiated Communications

As I established previously, most communications were initiated by teachers, but some were also initiated by children. Although the total number of child initiations was small, I wanted to establish if "high" children initiated more communications than "lows" did. As Table 29 shows, "high" children initiated 15 times more communications than did "low" children. In fact, very few communications were initiated by "lows". (Appendix O shows data per child per teacher.)

Table 29
Initiations by Children Ranked "High" and "Low": Mean Frequencies

<table>
<thead>
<tr>
<th>CHILD INITIATIONS</th>
<th>TOTAL FREQUENCY</th>
<th>MEAN PER DAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;HIGH&quot; CHILDREN</td>
<td>226</td>
<td>15.67</td>
</tr>
<tr>
<td>&quot;LOW&quot; CHILDREN</td>
<td>16</td>
<td>1.02</td>
</tr>
</tbody>
</table>

Note: N = 12 in each category, consisting of 3 "highs" and 3 "lows" as ranked by each of 4 sample teachers.

Qualitative Aspects of Communications with Target Children

Two prominent aspects of teacher communications with "high" and "low" ranked children will be described: first, how teachers achieved communication frequency and complexity with the respective target children, and second, contrasting ways teachers employed initiation and follow-up moves with
"highs" and "lows".

Communication Frequency and Complexity with Target Children

The following text samples are representative of how teachers achieved different levels of communication frequency and complexity with "highs" and "lows". Both examples were recorded during large group activities with Donna. The following observation presents a sequence of communication moves between Donna and five children: Maria, who was one of the "high" children, Heylim, who was ranked in the middle, and Chita, James and Denise, three "low" children.

EXAMPLE 49

Teacher: Today, during circle, you can work with the blocks, anything about Christmas. Anything you want to do.
All: (Talk, excited. Take blocks, start to build).
Teacher: (To Maria) What are you going to
Maria: A Christmas tree.
Teacher: How do you want to build a tree.
Maria: We need some grass.
Teacher: Let's see if we can find some. (Finds some material)
Teacher: Here is some (watches Maria).
Teacher: Do you have two trees?
Maria: There and there.
Teacher: Whom are the trees for?
Maria: (inaudible)
Teacher: (to Denise) What are you making?
Denise: (no reply)
Teacher: (helps Denise)
Teacher: (to Chita) Chita, are you making a tree, too?
Chita: (Smiles)
Teacher: (to Maria) What are you making now?
Maria: A little Christmas tree.
Teacher: A little christmas tree.
Teacher: Maria has a little one and a big one. Did your mom put it up?
Maria: No.
Teacher: Did your mom get a Christmas tree?
Maria: My mom.
Teacher: Denise, did your mom get a Christmas tree.
Denise: (no reply).
Teacher: Heylim, you want to help us?
Heylim: Starts to build by himself.
Teacher: (to Maria:) Now, is that your house?
Maria: This is the tree, this is the home, and this is the tree.
Teacher: So you have two trees in your house.
Teacher: Chita, can you tell me something about yours?
Chita: smiles.
Teacher: Maria got two trees in her house.
Maria: We need a door.
Teacher: So were is the door.
Maria: I put it over there.
Teacher: James, tell me something. What are you going to make.
James: Smiles.
Teacher: Smiles.
Teacher: (to Maria) What did you do?
Maria: It fell down.
Teacher: (to Denise) What are you making?
Denise: (Looks, points)
(eye contact, both smiling)
Teacher: Maria, What do you need?
Maria: I need a feather.
Teacher: From the play area. (gets up, picks up a feather)
Maria: I got leaves.
Teacher: It is Wintertime, okay, when leaves are down.
Maria: It is green.
Teacher: It is cold outside, isn't it.
Maria: This is the door.
Teacher: This is the door. This is beautiful.
Maria: We need some papers.
Teacher: (reaches) There are some paper towels.
(no reply)
Teacher: Where are the people?
Maria: Here.
Teacher: Who are they?
Maria: This is the little girl. And daddy, and grandpa.
Teacher: So Grandpa is not at the door? What happens when the door opens?
Maria: Strangers.
Teacher: What do the strangers do?
Maria: Open the door and take me.
Teacher: Do you dream about strangers?
Maria: Inaudible.
Teacher: Did you watch a movie about strangers?
Maria: (no reply)
Teacher: Okay.
Kay: gives Dorothy a feather.
Teacher: Oh, very good. Thank you (smiles).
Kay: smiles.
Teacher: (to Maria) Do you like scary movies?
Maria: Yes.
Teacher: What do you like about them.
Maria: I like it.
Teacher: When you watch them, do you have bad dreams?
Maria: When I watch scary movies.

The previous sequence shows seven communication units between the teacher and Maria, a "high" child. Many of these communications were sustained. Conversation units between the teacher and Maria consisted of 10, 6, 3, 4, 2, 24, and 6 verbal exchanges within units, thus achieving high levels of communication complexity. There were two initiations with Chita, and one with Heylim, children ranked in the middle. There were also three communications with Denise, one with James, and one with Kay, all of which were ranked "low", but each of those had a complexity rating of "1".

This example was representative in a significant way. It appeared that it was substantially easier for teachers to initiate and carry out communications with a "high" child than it was to engage a "low" child in a conversation. The "high" children were more responsive and also re-connected with the teacher when a communication was interrupted. "Low" children were largely unresponsive. Despite teachers' multiple attempts, it was difficult to carry out a verbal communication with children such as Denise, James, and Kay. Teachers struggled to have conversations with the "low" children as these children struggled in their efforts to
However, while rare, some "complex" communications occurred with children ranked "low". The following example shows such a situation. It describes a significant event for James. Even though this communication occurred toward the end of the school year, it constituted, according to my records, the first verbal exchange between Donna and James during a group activity.

EXAMPLE 50

James: Gives teacher some play dough.
Teacher: Thank you.
James: Wow. (laughs)
Teacher: You made a tortilla.
James: (sings) Tor-tor-tor-tor-tilla.
Teacher: (sings) Tor-tor-tor-tor-tilla.
James: Tortilla!
Teacher: Tortilla!
James: Tor-tilla.
Teacher: A Tortilla. (smiles)
James: A tortilla. (smiles)

The example demonstrated a communication unit consisting of eleven exchanges, mostly repetitions and restatements. The content of the conversation was simply based on one single word. In terms of this analysis, it represented a complex communication.

This example is not typical for teacher communications with "low" children, but it demonstrates possibilities for complex communications with "low" children. More commonly, and as the data show, teachers employed not only more frequent, but also more complex communications with "high" than with "low" children.
Teachers' Differential Use of Initiations and Follow-ups with Target Children

As I discussed previously, teachers often used a chain of successive initiation moves until children produced an answer. Teachers were more likely to use multiple initiation moves with children teachers had judged as "lows" than with "highs". "Highs" produced responses more quickly and easily than "lows". As "high" children responded rapidly and without much "coaching", teachers were likely to extend these responses and to use an uptake. "Low" children frequently required a number of initiation moves by the teacher to produce a response. In these cases, teachers were less likely to extend the child's response through an uptake. In short, "lows" received more initiation moves, and "highs" received more uptake moves from the teacher.

The following two observations exemplify these differences. Both situations were recorded during sessions with Rhonda; one with was with Sadan, a "low" child, and one with Carl, a "high" child. The examples are excerpts of High/Scope recall activities. I will begin with a transcript of a communication unit with the "low" child.

EXAMPLE 51

Teacher: What about Sadan. You want to say something about what you made?
Sadan: (no reply)
Teacher: Sadan, what is that?
Sadan: (no reply)
Teacher: What did you make with the Lego?
Sadan: (no reply)
Teacher: Hm?
Sadan: (no reply)
Teacher: You want to tell about something what you made?
Sadan: (no reply)
Teacher: What is it?
Sadan: House.
Teacher: Oh, you made a house.

In contrast, a communication between Rhonda and a "high" child will follow.

EXAMPLE 52

Teacher: Now Carl. What did you do in the classroom?
Carl: Lego.
Teacher: Which lego did you play with, do you remember? The little lego or the big lego?
Carl: The big lego.
Teacher: The big lego, ah. What did you make with the lego, do you remember?
Carl: We made a big mommy and daddy house.
Teacher: Ah, you made a big mommy and daddy house.
Carl: Yes.
Teacher: Who was visiting the house, do you remember?
Carl: All the sons.
Teacher: All the sons.
Carl: My sister did not go in.
Teacher: Your sister did not go in.

Summary

In summary, the data show variations between teacher-child communications with "high" and with "low" children in both large and small group contexts. There is evidence that teachers carried out more communications with "high" children than with "lows". Communications with "high" children were also more "complex" than with "lows". Teachers used more initiations and more follow-up moves with "high" children than they use with "low" children. All communication types were used more frequently with highs than with "lows". "High" children were more likely to
initiate conversations or respond to teacher questions that were addressed to the group as they were with "low" children.

Conversely, teachers communicated less frequently with "low" children than with "highs", and when they did, their communications were less complex. Through their nomination moves, teachers used fewer initiations and follow-ups with "low" children. "Lows" rarely initiated communications and infrequently responded to teacher questions and uptake moves that were addressed to the group.
In Chapter IV, I have indicated some principal ways in which Head Start teachers initiate and sustain verbal communications with children in group settings, and outlined major elements of their communication practices. This chapter will interpret the data, seek to explain the patterns that emerged.

The study portrayed the full complexity of the teachers' tasks in carrying out conversations with young children in group settings. Through a variety of questions, statements and directives, teachers tried to engage children into conversations. Many of the children's responses were either followed by a teacher uptake or by an evaluation; some of the children's utterances were simply repeated. Teachers also made decisions about turn-allocations: whether to direct their communications to all children, or nominate an individual child. Because each of the teachers' action was based on an "in-flight" decision, difficult communicative demands were placed on the teachers. In this final chapter, a theoretical model will be offered that will seek to understand these interactive decisions by the teacher. In this process, I consulted with the orienting
research and theory on classroom discourse, socio-linguistics, adult-child interactions, and teacher expectancies.

I will consider the possibility that teachers rely on some kind of mental structure that guides their interactions with children. Briefly, I will argue that the teachers carried out a well-established routine, a "schema", that helped them to organize their interactive behavior. This concept will guide my discussion of the teachers' interactive judgements and pedagogical decisions during group time events. I will explore the nature of the teachers' instructional tasks and the constraints of the situation of managing groups of young children. I will further speculate that in carrying out their schemata, teachers frame their interactions in such a way as to aid young children in mastering the rules of classroom discourse. I will also suggest that within this routinized system, teachers decisions on differential turn-allocation were made, and discuss why some children have more speaking turns than others. Finally, some theoretical and practice implications will be discussed, and I will make recommendations concerning future research on teacher-child communications.

The findings that have emerged from the study's research questions will be briefly summarized, and I will elaborate on each of them separately.
1. There is evidence for linguistic patterns employed by Head Start teachers during group activities. Through routinized initiation and follow-up moves, teachers assisted and structured children's responses.

2. The study indicates that teachers differentiated their communications with individual children.

3. Communication variations correlated with teachers' perceptions of individual children. The communications varied in terms of frequency and complexity.

**Discussion of Teachers' Communication Patterns**

The social structure of group activities in Head Start was more formal and school-like than during other Head Start activities. During group time, teachers appeared to shift their role from care-givers to instructors, and their communication became instructional. Therefore, it was not surprising to find linguistic elements in Head Start teachers' communication structure comparable to those found in other education institutions. Among others, Mehan (1979) and Cazden (1988) described this form of discourse in primary grades, observing a three part communication structure, consisting of initiations, responses, and follow-ups.

This study found a noticeably consistent configuration of how Head Start teachers organized their communications. Their core patterns consisted of a similar occurrence of questions, directives, statements, discipline utterances,
uptake, evaluations, repetitions and restatements. The configuration of communication types appeared similar and independent of group size, even though some variations between large and small group size activities were found.

This finding is remarkable given the diversity in the teachers' ethnic backgrounds. The presence of these patterns could be simply explained by the fact that practices were transferred from teacher to teacher, as head teachers trained teacher assistants, who than became head teachers in other classrooms. However, my observations led me to believe that these patterns were not entirely created by the process of teacher training, because teachers generally did not alter their practices significantly based on training. Instead, they only had adapted some selective aspects from their training to their practice. This was exemplified by the teachers' selective utilization of High/Scope methods, for example in using a simplified version of "plan" and "review" strategies. A more plausible explanation, than the transference from teacher to teacher, is that the task of working with groups of young children leads to a common core pattern of behavior which transcends the individual differences in adult styles.

The presence of a script-like structure in communicating with young children has been previously described by Bruner (1983). In observing middle-class mothers' interaction moves during book-reading and early
games with their infants, he found that they enact a schema, consisting of a clear and repetitive communication structure. According to Bruner's observations, this structure was comprised of a series of communication moves, including directives ("look"), queries ("what is that"), tag questions ("you know, don't you") and follow-ups ("yes, it is an X"). Bruner posited that these early interactions contain a "deep structure", a set of realization rules by which the surface of the game is structured, such as the assignment of turn-taking roles, and an opportunity for distributing attention over an ordered sequence of events.

Some structural similarities observed in this study suggest that Head Start teachers also have constructed a schema for their communications. Their similar schematic nature became most obvious to me in the observations of games and songs during group activities. The structure in many of these games was also comprised of a sequence of verbal exchanges between teacher and children: a question ("Where is Hector?")", prefaced questions ("Is Hector here?"), directives ("Say, here I am"), statements ("Hector is here today"), and uptake ("How are you today, Sir"). The "deep structure" of turn taking and role exaction, present in the Head Start games, corresponded to the mother-infant games in Bruner's observations. Head Start teachers' communication schema include some basic structural communication elements that I will discuss in this chapter.
The proposed existence of a schema-like routine does not imply a fixed and static supermodel that includes all dimensions of teachers' communications, but more a flexible concept that incorporates a complex set of contextual and personal factors. Given the instructional qualities of the Head Start teachers' communication routines, I suggest that their interactive behavior is largely patterned by their past experience and their current perceptions of formal schooling: what teachers do, and what roles they assume in relation to the children they work with. Naturally, important factors in forming a schema are organizational and administrative expectations of Head Start. A third consideration included in the schema is teachers' perceptions of the nature and skills of the children.

For teachers, a schema is perhaps a functional device. Teaching situations call for immediate, rather than reflective responses, precluding reflective processing. A routinized schema relieves teachers of the need for constant moment-to-moment interactive decision making, which is difficult during the rapid pace of interaction moves during group time.

For children, a predictable, consistent communication schema is perhaps an essential device in becoming active participants in instructional activity. The benefit of a consistent structure is, according to Cazden (1990), that it allows participants to attend to content rather than
procedure. Bruner (1983) posits that mothers' schema-like interactions function as a "format" for children's interactive skills. According to Bruner, children require linguistic formats of arranged and routinized input of adult speech over time, and such scripts become internalized by children as they become skilled partners in discourse (Bruner, 1983, p. 39).

In analyzing the schema-like nature of Head Start teachers' communications during group activities, I suggest that a central feature of their actions is the production of a linguistic "format" that assists children in mastery of school-like, instructional discourse. For Head Start children, the acquisition of such communication patterns is a prerequisite for successful participation in formal education. Whereas all children in the two classrooms came with some established language skills, their linguistic experience was different from that of many middle class children who are more likely to have been exposed early to didactic discourse. Recent research (Heath, 1983, Rogoff, Mistry, & Goncu, 1993) suggests that not all children's experience includes frequently asked questions. For these reasons, children from populations similar to Head Start's are possibly less adequately prepared for participation in topic-centered education discourse and testing situations than many middle class children.
Dimensions of Head Start Teachers' Communications

The Head Start teachers operated within a communication schema that included two dimensions: instruction and control. The first has to do with the work involved in the production of academically correct and interactionally appropriate behavior. The second deals with the establishment of social order and behavioral control. As the following section will show, most aspects of teachers' verbal communications reflected and reinforced these elements.

Academic Instruction as a Dimension of Teachers' Communication Schema

One of the most obvious features of Head Start teachers' communication schema was that they themselves initiated and directed all aspects of group activities. Teachers asked questions, provided information through statements, and directed children's actions. From the point of view of the educational dimensions of language in classrooms, teachers' initiation moves have one primary purpose: teachers aim to elicit specific information from children (Cazden, John, & Hymes, 1972). Teachers seemed not to listen to contributions by children unless the responses were within a context predetermined by the teacher.

The information expected by the Head Start teachers was not always obvious to the children. In their elicitation moves, teachers used multiple initiation strategies to
elicit a specific key response from the children. However, any teacher initiation, even very simple ones, had potentially many responses. The "correct" one required not only knowledge but interpretive work.

Children were required to orient their verbal behavior to the teacher. This made it necessary for teachers to accommodate to the children's interactive abilities. Head Start teachers' way of eliciting a "correct" response was by prefacing their initiations. Multiple successive initiation steps served to orient the children to the relevant response. Such strategies progressively modified the linguistic task faced by the child as teachers guided the children toward an acceptable response. The minimum of help was provided first, and teachers gradually offered more specific help as the children demonstrated that they could not continue without it ("Can you tell me who this is?... What do you think she is doing?... What do you think her job is?"). In using the less specific version first, this sequence of teacher initiations was structurally comparable to the concept of "scaffolds" (McNamee, 1987, Wood, Bruner, & Middleton, 1978). In prefacing their questions, teachers modified and "scaffolded" the response task of the child. Simple, nuclear child answers were usually acceptable by the teacher as long as the responses were "correct", even though children's language competence typically exceeded their response moves.
Teacher's initiation moves incorporated a series of questions, statements and directives. There were sets of communication types used by teachers frequently and others they used rarely. Depending on the given task, each communication type was a useful device in soliciting information from children.

In posing questions, teachers had an opportunity to test children's knowledge. Most teachers' questions asked "Category A" questions that required recall; concrete facts, such as a name, a color, a shape ("What did you see in the zoo?"). "Category B" questions that asked for children's reasoning, and opinions, and evoked curiosity ("What do you think will happen next?"), were asked less frequently.

Interestingly, almost identical patterns were found in previous studies of teachers' questioning practices. In formal educational settings, about 60% of teachers' questions required students to recall facts, about 20% required children to think, and the remaining 20% were procedural (Gall, 1974).

The reasons for teachers' preferences for asking "recall" questions are complex. There are several possible reasons for teachers' questioning behavior. A simple explanation is that teachers had acquired a question-script based on their previous experience with education discourse. Another reason may be that teachers ask fact questions to bring out information about what children already "know" and
what still has to be taught. Perhaps the ability to answer recall questions represent teachers' ideas of what children should "know". In addition, teachers are able to pre-determine children’s responses more easily when asking "recall" questions than when asking "thinking" questions.

Interestingly, teachers were more inclined to ask "Category B" questions when they nominated individual children than when they proposed questions to the entire group. This was particularly true when they worked with small groups. In working with small groups, it was easier for teachers to fine-tune their questions in relationship to individual children because there was no need to consider the capabilities of a large number of children.

Teacher statements passed on information, ideas, and opinions ("this is a big ladybug"). The value of this communication type is to frame the presentation of academic information. In Mehan's word, they comprise the interior of lessons, thereby "distinguishing lessons from other parts of the stream of ongoing behavior" (Mehan, 1979, p. 49).

Directives called for respondents to take procedural action, such as "pick a color". The literature on early childhood education reflects conflicting beliefs about directives and their impact on language development. Their usefulness has been examined and argued in Early Intervention research. Some educators believe that directives are assumed appropriate for children with
developmental delays and are useful for cognitive and social skill development (McCatherin, Yoder, & Warren, 1995). The inclusion of directives is perhaps useful for Head Start children with limited discourse experience.

Head Start teachers expanded children's utterances by following up children's responses through "uptakes" and by asking them a subsequent follow-up question ("what else do you see?"). Teachers employed uptake more frequently with children who rapidly, and without the assistance of a series of teachers' prefacing, produced expected responses, and less frequently with children who did not.

A popular form of Head Start teachers' follow-up was to "repeat" or "restate" children's utterances. Tizard, Phelps and Plewis (1976) have drawn attention to the frequency of this speech in nursery schools, and found that teachers regard it as "social oil", or keeping the wheels of teacher-child interaction in motion. Repetitions and restatements of children's responses sometimes perform the function of uptake and provide opportunities for a subsequent child response, as in the previously discussed "tortilla" example (Example 25).

Perhaps these are devices for the teacher to let the children know that they were listened to and understood. Conceivably, teachers' utilization of repetitions and restatements substituted for negative "evaluations" as they were almost absent in the Head Start study. A repetition
seemed to suggest that the teacher accepted a child response, a restatement included a correction of the child response. The Head Start children were not subject to overt verbal criticism. This was a distinct divergence from educational discourse were verbal "evaluations" are significant elements of formal classroom settings (Mehan, 1974; Cazden, 1988).

Mehan (1979) suggested that positive feed-back, such as "well done", contributes information of an acceptable student reply and marks the final juncture of an exchange. He further suggested that positive and negative evaluations provide opportunities for extending the communications, and may keep the communication moving. Cazden (1988) theorized that prompting children with feedback assists them in forming or avoiding similar utterances later. Head Start teachers' employment of repetitions and restatements was a subtle way of providing evaluative feedback to young children.

Teacher Control as a Dimension of Teachers' Communication Schema

The previous discussion examined teachers' communication schema in terms of their instructional and academic dimensions. But in addition to children's academic learning, teachers attended to social aspects of learning. One of Head Start teachers' tasks was to promote children's adjustment to organized group events. This suggests that a
primary function of teachers' interactions during group activities was managerial.

Given the young age of the children, their lack of experience in working in a group, their competition for teachers' attention, and the amount time they were required to sit in a circle, it was surprising to me that teachers' verbal repertoire of communications did not include a large number of discipline management utterances.

Children's attention was solicited and maintained in a number of ways. Teachers created conditions that did not require many discipline management utterances and communicated expectations of who is in charge, implicitly and explicitly. Role relations between teachers and children were always asymmetrical in terms of rights and obligations, a phenomena inherent in most educational settings (Cazden, 1988).

The teachers' privileged status was implied by their elevated seating position in the circle, and a shift in the tone and volume of their voices when they started group activities. Teacher control was enforced from the beginning to the end: when starting group time, teachers routinely reminded children to "get ready", and then nominated children who appeared "ready" and attentive. At closure, children were required to speak before moving on to other activities.

Teachers initiated essentially all communications that
took place. Children's impetus was subject to approval or disapproval by teachers. Interestingly, in formal schooling, similar low incidence of child initiations were found: Foyd (1960) established that student initiations were less than five percent of the total number of initiations during taped classroom sessions in first, second and third grade classrooms. These data were identical with the findings in this study.

An essential element in maintaining social order was through control over speaking rights, a phenomena Mehan (1979) has previously drawn attention to. Teachers adapt, in Mehan's opinion, a "utilitarian" position of a strategic manipulation of the turn-allocation system. By nominating certain children and not others, they control which of the children is participating in group talk.

As described earlier, Head Start children's verbal participation in group activities was organized in two ways: by teachers' nominations of individual children or by their invitations to any child in the group. Teachers routinely alternated both participation forms, switching from individual nominations to group initiations. Through this process, the entire group of children remained constantly stimulated and engaged. The children were required to attend intensely to the content of teachers' initiations at all times. In fact, in order to contribute successfully to verbal activities, all children were also required to attend
to other children's contributions. Conversely, I noted that teachers sanctioned children who were not "ready" by withholding nominations. Furthermore, children who were mentally not "ready" or distracted at times were not capable of responding to initiations that were addressed to the entire group.

Turn-allocation strategies were not the only expression of the teachers' organization of social order during group activities. Through their follow-up moves, teachers regained the floor after children's turns. Teachers had to keep things moving along at a good pace, or they found themselves defeated by problems of inattention and disruption. Consequently, in addition to deciding which child would receive a turn in speaking, teachers had to consider how long one-to-one communication with individual children could be sustained. This aspect of communication was measured in terms of "complexity" within communication units. While assessing individual children's abilities to respond to their initiations and follow-ups, teachers had to be capable of assessing the group's ability to maintain appropriate social conduct.

The teachers' need for balancing the speaking rights of individual children against the needs and abilities of the entire group has serious implications for teachers' behavior. Previously, I presented data describing teachers' disposition to employ uptakes in situations when children
did not require a great number of prefacing moves by
teachers to provide a response. In these instances
additional time for uptake is possible without compromising
the group.

An additional advantage of these successful exchanges
between teachers and children was that fluidity of
uninterrupted spoken language was produced. Conversely,
when teachers already allocated time to multiple initiation
moves, they were often interrupted by the silence of pauses,
and opportunities for expanding these children's hesitant
responses were lost.

The establishment of balance between the needs of
individual children's and the group requires teachers' skill
and experience. Teachers' communication complexity,
described in the previous chapter, show substantial
variations. These variations are possibly an expression of
individual teachers' teaching experience and skill.

In sum, this section discussed important principles of
Head Start teachers' communication schema. Children were
required to adapt their thinking to that of the teacher,
while teachers adapted to the structure of the children's
communications. The structural elements I described were
intertwined, and sometimes competed with each other. While
achieving educational objectives, teachers were also
maintaining social order. From moment to moment, teachers
negotiated their initiations and follow-ups according to
these purposes.

**Variations of Teachers' Communications with Individual Children**

The data discussed in Chapter IV documented that there were substantial variations in teachers' communication with individual children. There is evidence that teachers carried out considerably more conversations with some children than they did with others. They also carried out more sustained, "complex" conversations with selected children than with others. Incidentally, the children with whom teachers communicated most often, were also the ones they carried out more complex communications with. The children with whom teachers communicated less were also the ones teachers had less "complex" conversations with. This finding, and the magnitude of the variations, indicated that communication variations did not occur by chance. Further analysis of the data was required to investigate why these variations occurred.

**Teachers' Communication and their Perception of Children's Competence**

This research began with a proposition that teacher communications may be mediated by their differential perceptions of individual children. The data compiled in this study show a positive correlation between Head Start teachers' assessment of children, and their verbal communications. The following discussion will examine the
nature of this relationship, and consider both interview and classroom observation data.

Teacher Interviews

The teacher interviews had two major purposes, one, to establish groups of "high/low" target children through ranking, and second, to understand the nature of teachers' perceptions of individual children.

The ranking was administered according to a global criterion of children's overall competence. These rankings produced consistent groups of "high" and "low" competence children. While this measure fulfilled its function adequately, it was obvious to me that this process of assigning children into "high" or "low" groups was alien to Head Start teacher's practices.

The ranking measure was supplemented by open ended interview questions, for which teachers produced extensive and eloquent narratives about each single child in their classroom. Even a short time after the beginning of the school year, teachers had built up extensive knowledge about each of the children. The style of their narratives was more descriptive than judgmental. Teachers' perceptions of children were primarily based on informal observations and their interactions with children, and included their observations of children's verbal participation in group activities.

A variety of child characteristics were extrapolated
from the teachers' narratives. I was most interested in the child characteristics teachers typically addressed when they described individual children. A computation of how often certain descriptors were used by teachers offered an opportunity to gain some insights into the nature of child characteristics teachers were particularly concerned about, even though, and as I will discuss in a subsequent section, this analysis should not be taken as conclusive evidence.

The analysis of teachers' narratives showed that teachers made numerous references to children's language and social abilities. Furthermore, children who were ranked "highest" were also judged to have good English language and good social skills. Conversely, children who were ranked "lowest" did not have these skills. Interestingly, these were the skills essential for children's participation in group discourse.

It was evident that teachers developed variable perceptions about children. Yet, how these perceptions influenced their interactive behavior is an open one. In the following section, I will consider the possibility that teachers' perception of individual children may have followed teachers' behavior as much as teachers' behavior followed teachers' perception of individual children.
Classroom Observations

The question about what mediated teachers' differential communications remains. As stated previously, the data show marked variations between verbal communications with individual children. Teachers communicated more frequently and carried out more complex communications with "high" children than with "low" children. Thus, some aspects of "expectancy theory" hypothesis seem to be confirmed by this research. Many studies have found similar patterns in teacher behavior (Adams & Cohen, 1974; Blakely, 1970; Kester & Letchworth, 1972; Page, 1971; Rist, 1970). However, my interpretation of the data departs from that of expectancy theory. There was no evidence in this research that teachers favored "high" children more than "lows" as a result of teacher prejudice or bias. The following section will offer some alternative explanations why teachers do differentiate their communications between "high" and "low" group children, and also consider children's own contributions to the variations in communication.

Teachers' Interactive Decisions

Interpretations of teachers' variations in communication with "highs" and "lows" are complicated by factors that evolve from other elements than from teacher perceptions and children's attributes. My observations led me to believe that it is within the context of structural aspects of teachers' communications that interactive
decisions are made.

I previously described group activities in Head Start as a complex social system. In each given activity, a large number of decisions had to be made by the teacher: how to react to a situation, what to do next, whom to choose. At each moment, "in-flight" decision making demands are intense. It is conceivable that teachers, when faced with complex situations, rely on the mental categories, embedded in their "schema", that they use to organize their thinking. In carrying out a well established communication schema, the task of decision making is simplified.

I discussed previously some structural elements of Head Start teachers' communication schema, and suggested that it is organized by two dimensions: one is to provide educational instruction and the other to achieve social control. I assume that teachers' differential interactive behavior with "high" and "low" children is organized around these two elements.

In relation to the instructional aspects of the verbal communications, I previously portrayed how Head Start teachers mentally predetermine a conversational topic. This practice had several implications for teacher's interactive behavior. As they initiated the conversations, they already seemed to have predetermined children's reply moves. If children failed to produce the anticipated response, teachers assisted them through a series of communication
moves. Typically, the selection of a conversational topic, and its appropriate reply, preceded the selection of a child. This also implies that children who teachers viewed as being capable of producing an appropriate response were most likely to be nominated. These children are more likely to be "highs" than "lows".

Differences between teachers' communications with "highs" and with lows "lows" were even more substantial in teachers' use of "uptake". Teachers rarely extended or expanded "low" children's utterances. Conversations with "highs" were more sustained than with "low" children. The reason for these differences appear to be that extensions or expansions were only possible when an "adequate" child response was given. Hesitant child replies that already had required a number of teachers' prefacing moves were difficult to expand.

Notably, few differences were found in teachers' use of directives with "high" and "low" children. Directives were found in other studies to enhance language development in developmentally delayed children (McCatherin, Yoder, & Warren, 1995). In using directives, teachers possibly knew that these were successful initiating communications with "low" children (Teacher: "Say, 'Here I am'"; Child: "Here I am").

Some deviations from expectancy research in formal education are noteworthy. Negative feedback, a cornerstone
variable in a number of teacher expectancy studies, with teachers reprimanding "lows" more than "highs" (Brophy & Good, 1970; Cooper & Baron, 1977) was not found by Head Start teachers. These teachers relied on more subtle feedback strategies, such as repetitions or restatements of children's utterances. Yet, the analyses showed teachers used all communication types more frequently with "high" children. Again, these variations seemed to have occurred because of the high frequency of all communications with "high" children in general.

In establishing social order, teachers needed to consider the entire group of children. In maintaining control, teachers made decisions about turn and time allocation. It was conceivable that management decisions served as antecedents for teachers' interactive decisions. In fact, in a study of teacher's thought processes, Shavelson, Atwood and Borko (1977) found that teachers' interactive decisions are more related to classroom management than to students' behavior and characteristics. Teachers constantly needed to consider whom to select, how much time to spend with a particular child, how much to switch from child to child, and must keep the "flow" of the activity going. These processes influenced teachers' turn and time allocation practices.

When Head Start teachers nominated individual children, they tended to choose "highs" substantially more often than
"lows". Because "high" group children were, according to teachers' judgements, more verbal and social than "lows", teachers reacted more frequently to the "highs" than to the "lows". Typically, the "highs" were children who the teacher expected to be capable of producing a response. In addition, children who were more verbal may have given teachers more evidence that they would be capable of responding to their elicitation than "lows" would be. Teacher Gena aptly described this process in her own words: "When I ask a question, and nobody answers, I look around and then pick the child who I think will catch the answer".

Some of teachers' nomination decisions were deliberate and rational. According to their own judgement, they tried to prevent embarrassment for children who, in the teachers' judgement, would not produce an adequate response. To the extent that teachers initiated and sustained more communications with "highs" than with "lows", teachers' judgements about individual children represented adaptive aspects of their differential communication behavior. I suggest that differential treatment has, at least from the teachers' perspective, a utilitarian function.

Teacher's nomination moves aimed for "keeping things going". Attention of the whole group may be achieved in nominating a particular child. There may not be the time to wait for a confused child, and much time may have already been spent in multiple elicitation moves with children who
are less capable. Pauses invited other children to be restless, inattentive, and disruptive. Teachers attempted to maintain a fast-paced rhythm of initiation-response-follow-up moves.

Children as Mediators of Differential Communication

Children came to Head Start with variations in their abilities, talents, experiences, and communicative competence. Children were differently prepared by their families in terms of their knowledge of the English language. Some children came to the Head Start program already competent in reading teachers' cues and in predicting the type of response teachers expected. Children also exerted differential demands on teachers, and responded differently when called upon. There is some evidence that these child characteristics exist independent of teacher input (Brophy, Evertson, Anderson, Baum, & Crawford, 1981; Brophy & Good, 1974).

Another factor in teachers' differential communications was children's predictive ability. I found that children's successful participation in group activity depended largely upon their own skills in inferring the responses teachers expected to hear. This also required that children be capable of adapting their thinking to that of the teacher. Again, children teacher ranked at a lower level (because of their lower socio-linguistic skills) were less likely to be capable of doing this. Children themselves contributed to
the communications in the classroom.

As this study has shown, in situations when teachers addressed initiations to the group, "high" children were more likely to respond than "lows". "Highs" themselves created more communication opportunities than "lows" and received more speaking opportunities through teacher nominations. "Highs" were more apt to initiate communications than other children.

"Lows" in contrast, presented their teachers with fewer opportunities to call on them. Conversational collaboration was more difficult to achieve with "low" children than with "highs". "Low" children were more hesitant in responding to teacher initiations. They often delivered incorrect, delayed or incomplete responses, and teachers had less to build on in sustaining the conversation.

A problem of no small significance is the question how child variables are confounded with teacher variables. Teachers may have amplified pre-existing child differences. Frequent nominations of "high" children perhaps enhanced these children's confidence and their communication skills. Conversely, the absence of opportunities may have had discouraging effects on "low" children. Yet, communication disparities would exist even if teachers had merely reacted equitably to children's interaction demands. Even when considering implicit teacher effects on children's skills, there is some evidence for the presence of a mediating role
of children themselves.

Summary

In concluding this discussion, the main aspects of Head Start communications are that they are interactive systems, asymmetrically constructed by teachers and children. Teachers struggled to get children to respond to their initiations while children struggled to ascertain teachers' expected responses. Considering the complexity of this task, it is unlikely that teachers' communication practices rely solely on their perceptions of individual children. Rather, communication variations are mediated by both teacher and child factors. The teachers' focus seemed to be on the flow of the activity itself, and the degree of children's participation, and not primarily on immediate learning needs of individual children.

The script-like nature of their initiation and follow-up moves suggest that these teachers have constructed a schema that organized their interactive decisions. This schema resembles discourse in formal schooling, including two coexisting dimensions that determine teacher's interaction moves: the need for educational instruction and the need for social control. In participating in this type of interaction, children practiced topic-centered communication, valued in formal schooling. At times when teachers invited any child to respond, "high" children had more opportunities to produce responses than "low" children,
because teachers typically began initiations with broadly stated questions that demanded advanced linguistic abilities from the children. Because teachers were more likely to nominate children whom they expected to be able to produce appropriate responses, and children who were more skilled in knowing the responses teachers expected were more likely to reply, inequities in children's verbal participation in group activities were created.

Validity of the Research Methodology

This research is grounded in empirical evidence made available by a systematic analysis of audiotapes and transcripts of regularly occurring communications in two Head Start classrooms. Its strength lies in the availability of text and numerical data that describe actual speech events. The lengthy personal involvement with the Head Start program, and the ability to participate in everyday activities of classroom life, permitted me to gather and interpret data in ways that broadened knowledge about teacher communications.

The observational event, group time, was well suited for data collection as it constituted the period when teachers engaged in sustained verbal interactions with most children. The availability of large amounts of text data was critical in understanding the central elements of the communication processes. Exhaustive data analysis was administered through coding and tabulation of all instances
of teacher communications. The result was a precise model that comprehensively describes an organization of teacher-child communications.

A major concern of this study was to increase the validity and to reduce sources of error. Detailed observations and tapings have helped to do this. The data treatment through a process of coding and enumeration of actual verbal content of communications was an important check against the research questions. The process of coding was relatively unambiguous as it did not attempt to infer speaker intentions or child outcomes. The quantification scheme was useful in reducing researcher biases. Simple computations of frequencies, means and percentages established linguistic patterns in teachers' way of eliciting and sustaining conversations during group activities. As all communications were attributed to individual speakers, an examination of correlations with teacher assigned "high" and "low" competence children was possible.

The teacher interviews were a useful and effective measure in several respects. The semi-structured, open-ended format of the interviews was valuable because it helped to bring out subjective responses and determine personal and subjective attitudes toward the children and their work as teachers. The interviews also provided insights into personal and cultural contexts of their
beliefs and attitudes toward children.

The disadvantage was that data collection and treatment was at times cumbersome and consumed large amounts of time. The absence of time-sampling made it impossible to compare frequency counts of individual teachers' communications. Because the observations and coding scheme did not include non-verbal aspects, such as children's seating arrangements, teachers' tone of voice, or facial expressions, important clues may have been missed. A substantial difficulty of the interviews was that they lacked standardization and therefore comparability from one teacher with another. Their analysis was more difficult than that of standardized interviews. It was speculative to infer that descriptors teachers used frequently were also the ones most important to them. Fixed-alternative questions would have had the advantage of being standardizable, simpler to administer, and easier to analyze. A simple teacher assessment tool could have produced adequate results in eliciting the significant teacher descriptors of children. Also, teachers may have been unintentionally biased by me; for example, my own reluctance in comparing children on a scale may have been evident to them. The absence of a second observer and coder reduces the reliability of this study. Sample selection and size does not permit generalizations to Head Start at large. My presence as participant observer may have affected the observed behavior.
Theoretical Implications

There are a number of underlying questions in this analysis of Head Start teachers' communication practices. Whereas this study did not aim to answer questions about the effects of teachers' practices on the developmental and educational outcome for children, some considerations to consequences should be mentioned. One important issue relates to the nature of children's learning as a result of the teachers' communications, the other to the disparities in children's verbal participation in group activities.

The first part of the previous discussion described some elements that are important in formal schooling. I proposed previously that Head Start teachers' communication schema act like a "format" that helps to facilitate children's participation in instructional discourse. I described a teacher's communication schema that emphasizes initiations and follow-ups which lead children to predetermined responses. Predictable and specific "correct" responses were anticipated by their teachers. Children, initially inexperienced in responding to adults' questions, potentially became skilled partners in topic-centered communications. Children were learning to participate as comprehending pupils by learning to predict, to anticipate within rather narrow limits. Children's ability to guess, project, anticipate teachers' thought processes is essential for children's participation in educational discourse. As a
result, children learn the teachers' scripts as they acquire skills in adapting their thinking to that of the teacher.

The Head Start teachers' communications largely facilitated this process. Most sequences were initiated by teachers. The teacher elicited information from children, provided information, and directed their responses. When teachers directed children, children must know to take action. When teachers provided information, children must know to be attentive to the teacher. This meant effective participation involved distinguishing between directive, question and statement communication types in order to provide symmetry between initiation and reply acts.

Children also learned to distinguish between the teachers' nomination of an individual child and the invitation to all children to respond; each of these procedures proscribed different behaviors. When one particular child has been nominated, all other children were expected to be silent. Children were practicing language important in instructional "school" discourse.

The concept of school discourse is broad in scope. Institutions of formal schooling, universal in industrialized nations and exported to developing nations, follow the old style of testing skills based on a teacher initiated task. A successful transition to formal education is recognized as vitally important in establishing a strong beginning for children's academic experience. One factor
influencing how children make this transition is their ability to adjust to teacher expectations. Perhaps for the first time, children are no longer allowed to speak freely to each other.

Some general skills, such as turn-taking and listening to others, are basic requirements for participation in school. Most educational institutions perceive answering moves as appropriate to the learner role. Schools require that students are capable of orienting their behavior to the procedures of gaining access to the floor, and even competing for access to it. Quizzing students, and questioning students in large groups in ways that students respond with few questions of their own, is a favorite activity in many educational settings. Because many of these features were routinely part of the teacher-child communication schema in Head Start, I believe that Head Start children were learning to become students.

There is are some important questions emerging from this analysis: one is about the development of children's own thinking during group activities. Head Start teachers rarely elicited children's opinions or solutions to problems, or their own thinking. Teachers' follow-ups were in terms of their own rather than the child's intent. Teachers did not seem to be interested in what children themselves had to say, and did not appear to listen to children's own thoughts, ideas, and contributions to the
discourse. Children's cognitive tasks were largely restricted to prediction, to anticipation, within rather narrow limits, from moment to moment. Creative, critical and analytic thinking were not part of the verbal interactions during Head Start group activities.

A second implicit question this analysis needs to pose, but can not solve, relates to the inequitable distribution of child participation during group activities. The previous discussion why variations occur suggested that teachers' interactive choices were largely reasonable and utilitarian. Even though communication differentiation based on teacher bias or stereotypes was not found, to the extent that teachers act differently with individual children, teachers' differential behavior with "high" and "low" competence children may function like a "self fulfilling prophecy". Some children's progress may have been restricted and others' enhanced by the differentiation of teachers' communication practices. It is possible that "low" children became further disadvantaged by a lack of verbal interaction possibilities, in particular the children who did not have good language and social skills to start with.

In the absence of empirical data it is hard to assess whether these constraints have long term effects on children. Systematic data collections in this research were largely restricted to group activities during Head Start
operations, but there were other important opportunities for children's learning, such as play and peer interactions. In addition, children are skilled observers and may have opportunities to observe and develop impressive cognitive skills through observations of social activity between teachers and other children.

Furthermore, teachers' differential communication practices may not necessarily mean inadequate teaching. All teachers, aware of their preferences for calling on certain children, recognized the possibility that public failures can be debilitating to children. Furthermore, classroom competence is not limited to discourse skills. Success in classrooms also involves other factors such as children's motivation and the content of their knowledge base.

**Implications for Practice**

The previous discussions imply some suggestions for practice. First, I propose that teachers utilize small group activities more often and large group activities less often. The small group dynamics are comparable to those during large group activities but teachers seem to be inclined to ask more questions that require children's thinking processes in small groups. Small group activities seem to present an easier teacher focus on individual children who do not participate frequently during large group activities as they can fine-tune their initiations more effectively. Teachers seem to be naturally more
inclined to nominate individual children in small groups, and therefore would be able to work more intensely with targeted children. Social control seems to be more easily maintained when fewer children are present. Furthermore, because children seem to initiate relatively more communications during small groups than during large groups, a potential for expanding children's complex communicative skills seems to be present there. With fewer children present in a group it appears to be easier carry out verbal interaction strategies for children viewed as being less competent.

For teacher educators, I propose to (1) help teachers to understand how children acquire language, (2) to raise teachers' awareness that successful development of children depends heavily on satisfactory verbal interaction between adults and children, (3) to assist in implementing a English language curriculum for children whose home language is a foreign one, (4) help teachers to listen to what children have to say, (5) to encourage teachers to focus more on children's fantasy and creative thinking, and (5) help teachers to plan and carry out verbal interaction strategies, geared children they view as being less competent.
Implications for Future Research

This research opens up many more research questions than it answers. The content of the observations and interviews could be analyzed further. It would be possible to conduct analysis of the transcripts to explore the following questions: What exactly were the children's contributions to the communication process? In tracking groups of "high and "low" children, does their interactive competence grow over the course of a school year? Do teachers adapt to changes in children's emerging interactive competence? What is the efficacy of specific communication moves in terms of eliciting responses from children? What is the content of teacher-child-communications? Does the communication content vary with individual children, and does it change over time? How do communications vary among teachers?

The information and insights derived from this study also suggest future research endeavors, such as (1) examine whether quantitative and qualitative aspects of teacher-child communications predict achievement outcomes for individual children, (2) compare the generated data from this study with observations in an alternative context: e.g., a middle class early childhood programs or kindergarten setting, (3) design and test a user-friendly communication observation instrument, and (4) carry out quasi-experimental studies to test training programs
designed to alter significant aspects of teacher behavior.

**Summary of the Study**

The central thesis of this study is that Head Start teachers' verbal communications with children were complex social systems that were governed by implicit and explicit rules and patterns. Significant aspects of these communications were that they were teacher-initiated and controlled, and that they were sequentially arranged. Quantitative and qualitative communication variations existed between communications with children whose teachers had ranked them "high" and those who had been ranked "low". Teacher perceptions of children and teacher communications were confounded variables, because teachers' perceptions of children were obtained from observations of children, in particular children's linguistic and social skills, two indispensable prerequisites of classroom discourse.

Teachers' communication schema is based on an asymmetrical relationship between teachers and children. Important elements of this schema are that the teachers' role is to instruct and to control children in groups, and the children's role is to reply to the teachers' initiations. Children are expected to accommodate to teachers in terms of their thinking and speaking, and teachers accommodate to the children terms of the structural aspects of their communications. Teachers' interactive decisions are organized by this schema, resulting in
inequities of individual children's participation in teacher-child communications.
APPENDIX A

EXAMPLE OF CODED TEXT
Example of Coded Text

1. CODING SCHEME

A. SPEAKER IDENTIFIERS

D  Donna (teacher)
HE Hector
SH Shanquita
MA Maria
TA Tania
JA James
AN Andy
KA Kay
Ch Chikita

B. TEACHER COMMUNICATIONS

1. Teacher Communications Addressed to Individual Children:
QIA Question Category A
QIB Question Category B
QIC Question Category C
DIRI Directives
STI Statements
MNI Management
UI Uptake
RI Repetitions
RSI Restatements
EPI Positive Evaluations
ENI Negative Evaluation

2. Communications Addressed to the Group
QAA Question Category A
QAB Question Category B
QAC Question Category C
DIRA Directives
STA Statements
MANA Management
UA Uptake
RA Repetitions
RSA Restatements
EPA Positive Evaluations
ENA Negative Evaluation

C. CHILD COMMUNICATIONS

CC Child-Child Communications
CI Child Initiations
2. CODED TEXT

+ 2-20-1994
Small group time with Donna
Children: Hector, Shaquita, Maria, Tania, James, Andy, Kay, Chikita.

!-MA   !-DIRI
D. Maria, sit over to the side please. 6!
Shaquita, you can sit over to the 7 -#

$#-SH  #'-DIRI
-MA    %-STA
side, here. We were talking about 8 -#$-%
community helpers and all the people 9  |

#-QAB
who work in our community. This 10 -# 1-%
image, what does it look like to you 11  |
(holds up figure). 12 -# 1
Ma: That's a Grandma. 13  |

!-R     #JA  %'-QIB
D. It's a grandma? How about you, James. 14!-#-$-%
What do you think she is. 15  1-%
Ja...

!-QIB
D. What do you think she is. 17  |
Ja. Hm, her a doctor. 18  -#

!-EIP   !-QIB  #'-SH
D. Good. What about you, Shaquita? 19!-#  
Sh. A mother. 20  |

!-RI     !-STA
D. A mother? She could be a mother too. 21!-#  

#-TA
Ta. A Grandma. 22  -#

!-RSI   $-MA  %-QAB
D. She could be a grandma, too. What do 23!-#-$-%
you think (to Chikita). 24 -# 1-%
Ma. That's a mailman. 25  |

#-CH  *-MNA
D. One at a time. Listen to Chikita 26!#$
first. We are going to listen to each 27  |

$-QIB
other today. Chikita, what do you 28 1-%
think she is doing. 29  -*
Ch... 30  |
D. Hm, can you tell me? What do you think she is doing... What do you think her job is.  
Ch.. 

D. One at a time. Pass it to Maria. 

What do you think, Maria, what do you think she does.  
Ma. Putting on a mailman. 

D. A mailman? It is a woman, a lady. Can you pass it over to Andy? What do you think she is doing... What do you think her job is.  
An.. 

D. Hm? 
An... 

D. Andy, what do you think her job is.  
An... 

D. What do you think she does.  
An... 

D. Hector, what do you think she does.  
What kind of work does she do.  
He.. 

D. Hm?..Okay, pass it to Chiquita.  
He. A lion. 

D. A lion? 
...
D. A what?  
He. A lion. 

D. A lion? What do you think she does, Chikita.  
Ch... 

D. Look what she has on. What do you think she does.  
Ch. Got the mail. 

D. She got the mail, very good. Can you
pass it to Tania? What do you think she does.
Ta. A mama.

D. She can be a mama, yes. What else?

Kay, what do you think. She is the Maillady, she brings out mail to us. She knocks, or rings our bell, and

puts it in our mailbox. Okay, what about him. What do you think he does. He. He is a doctor.

D. A doctor? What do you think, Chikita.
Ch. Medicine.

D. A doctor with medicine? Can you pass it to Tania, please? Tania, what do you think this person does. Tania?
Kay? What do you think he does. I need you to tell me. Chikita, what do you think he does, Maria.
Ma. He does shopping.

D. Shopping? Very good. What do you think he does (to James).
Ja. Shopping.
Descriptions of the Sample Teachers

RHONDA, head teacher in classroom II, was originally from Pakistan, where she started to work with pre-school children when she graduated from High School. After receiving a teaching certificate and a B.A. in Education, she transferred to teach primary classes. Since she had emigrated to the US in 1986, she received 18 child development credit hours from a Chicago Community College, and a CDA.

Four years ago, Rhonda started as an assistant teacher at the Head Start center, after a brief experience in a low quality Chicago day care center. Trained and supervised by a head teacher, she felt she learned much at the Head Start program, especially how to work with difficult children. The Head Start work differed much from Pakistani pre-school education. Rhonda pointed out that there, four year olds typically sit at desks, and are taught counting, the alphabet, and how to use pencil and paper. There, they play little and are expected to write and when by the age of five, they enter school. A second difference was teachers' "parenting" role here at the Head Start center, e.g. washing hands, feeding, and "toileting" of children.

Rhonda preferred the "Head Start approach" to child development and views the program as an important preparatory system for school learning. She found many aspects of her work challenging and constantly tried to
improve her work with children by requesting advice from others and by revising failed strategies. She stressed the importance of patience with the children, especially in repeating rules to the children.

GENA worked with Rhonda in classroom II as a teacher assistant. Like Rhonda, she is an immigrant. She was born and raised in Columbia. Since she was very young, she loved children, and by the age of 14 years, she was hired as a Sunday school teacher. Later, after taking a few college courses, she worked for seven years as grade school teacher with nine to twelve year old children. After emigrating to the U.S. 13 years ago and raising her own children, she went back to a community college and just recently finished her AA degree. Gena was hired as a Teacher Assistant at the Head Start two years ago. This is her first teaching experience with pre-school age children.

According to Gena, Columbian children's language skills are far more advanced, and four, five year olds are more likely to read, and to know numbers and the alphabet. Child-rearing and education practices were stricter in her home country. Children also are more independent at a young age. Gena concluded that one reason for these differences is that American mothers have to work outside the house.

Gena viewed Head Start as an excellent program because "they know how to work with children". She was enthusiastic about the fact that social services to parents were provided
because, according to her experience, many parents, and in particular Hispanic parents, "know nothing about parenting". However, she was discouraged by the limitations of the short program hours for the children. In particular, Gena was alarmed that many Hispanic children failed to become sufficiently proficient in English because, according to her, they watch many Spanish language Soap Operas, instead of educationally oriented children programs on television.

Gena regarded her work as a service to God. She feels the most important element in her work with children are love and passion. She explained, "my role is to encourage and praise", and that we need to "sincerely give love, if you are not sincere with the children, don't work with them. We need to spend special time with children, and touch them." Tending to their individual needs, such as nutritional needs, was meaningful to her, because "they don't know to eat well". Gena was always speaking from the heart, and truly brings compassion to the job. Her perception about her work was that affection and loving the children, being honest with them, and making them happy, are key to young children's learning and growth.

LOUISE, a bi-lingual second generation Mexican-American woman, was first time head teacher. Trained by Rhonda, she has been with the center for her fourth year. In addition to 18 community college credit hours, she recently completed a CDA. She has had no Mexican child development experience
but felt that the programs there were a lot more structured, and she enjoyed the less formal Head Start environment.

Louise always wanted to help children. Even when she was very young herself she would approach and assist other children. She defined Head Start's most important elements as "giving the children a start for their social life" and that children would learn to get along with each other. In this process, teachers' role was "to provide for this", largely by teaching them rules, giving to them everything they need, through role-modelling, and by helping children to influence each other positively. For Louise, it was crucial to know when to step in and when not to step in. This, according to Louise, can only be done through careful observations.

DONNA, an African American woman, was in her first year at the Head Start center. She had ten year background working with young children and aimed to become a Social Worker. She came to this type of work through a role-model, an kind and supportive teacher who mentored her as a young child. Currently, as a teacher assistant with Louise, she was working on her CDA degree.

Head Start, in her words, is important for children because it works with the whole family, helps children to feel good about themselves, and to develop their whole self. She felt that her primary role was to provide a good learning environment, and she believed in good planning and
setting goals for the children. As a rule, she tried not to intervene with children unless they would exhibit a problem, and if she does, she carefully tried not to impose upon them but to re-direct their activities.
APPENDIX C

CLASSROOM SCHEDULES
Schedules in the Two Sample Classrooms:

Classroom I (9:00 - 12:00 AM):

9:00 - 9:15 Greeting
9:15 - 9:45 Morning Snack
9:45 - 10:45 Work Time
10:45 - 10:50 Clean Up
10:50 - 11:05 Small Group Time
11:05 - 11:15 Circle Time
11:15 - 11:45 Lunch, Brushing Teeth
11:45 - 11:50 Story Time
11:55 - 12:00 Dismissal

Classroom II (1:00 - 4:00 PM):

1:00 - 1:15 Greeting
1:15 - 1:45 Lunch, Brushing Teeth
1:45 - 2:15 Work Time
2:15 - 2:45 Gym
2:45 - 3:00 Small Group time
3:00 - 3:15 Large Group Time
3:15 - 3:45 Snack
3:45 - 3:55 Story
3:55 - 4:00 Dismissal
APPENDIX D

TABULATIONS OF CHILD INITIATION DATA
TABLE I

Communication Initiations: Per Teacher and Children (During Large Group Activities)

<table>
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<tr>
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Communication Initiations: Per Teacher and Children (During Small Group Activities)

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<th>DONNA</th>
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APPENDIX E

TABULATIONS OF CHILD TO CHILD COMMUNICATIONS DATA
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Communications: Teacher to Child and Child to Child,
Tabulated per Teacher, During Large Groups

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Communications: Teacher to Child and Child to Child,
Tabulated per Teacher, During Small Groups

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<th>DONNA</th>
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APPENDIX F

TABULATIONS OF TEACHER INITIATIONS BY NOMINATIONS AND INITIATIONS FOR ANY CHILD TO REPLY
## TABLE V

Teacher Communication: Nominations and Invitations to Reply,
Tabulated Per Teacher, During Large Group Activities

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Teacher Communication: Nominations and Invitations to Reply.

Tabulated per Teacher, During Small Group Activities

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APPENDIX G

TABULATIONS OF TEACHER INITIATIONS AND FOLLOW-UPS
TABLE VII

Teacher Communications: Initiations and Follow-ups,
Tabulated per Teacher, During Large Groups

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TABLE VIII

Teacher Communications: Initiations and Follow-ups,
Tabulated per Teacher, During Small Groups

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APPENDIX H

TABULATIONS OF TEACHER INITIATION TYPES

211
### Table IX

**Teacher Initiations: Communication Types, Tabulated per Teacher, Observed During Large Groups**

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### TABLE X

Teacher Initiations: Communication Types, Tabulated per Teacher, Observed During Small Groups

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</table>
APPENDIX I

TABULATIONS OF TEACHER FOLLOW-UP TYPES
TABLE XI
Teacher Follow-ups: Communication Types, Collected During Large Groups, Tabulated per Teacher

<table>
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<tr>
<th></th>
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### TABLE XII

**Teacher Follow-ups: Communication Types, Collected During Small Groups, Tabulated per Teacher**

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APPENDIX J

TABULATIONS OF TEACHER QUESTIONS
TABLE XIII

Questions: Classified by Categories, Tabulated per Teacher, During Large Groups

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TABLE XIV

Questions: Classified by Categories, Tabulated per Teacher, During Small Groups

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APPENDIX K

RANKING OF CHILDREN
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*Children who were not in the program for the entire year.
TABLE XVI

Ranking of Children: Donna, Assistant Teacher, Classroom I

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*Children who were not in the program for the entire year.
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Ranking of Children: Rhonda, Head Teacher, Classroom II

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<td>CO</td>
<td>SAN</td>
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*Children who were not in the program for the entire year.
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*Children who were not in the program for the entire year.*
APPENDIX L

NARRATIVES OF CHILDREN
Narratives of Children Teachers Assessed to be of High and Low Competence

RHONDA's narratives of Mike, Carl and Britta, rated highest, and Berta, Danny, and Sadan, rated lowest:

CARL is from Guatemala. He is the baby in the family, very sweet. He gets a lot of support from his older sister. He speaks English well, is friendly. Carl is very talkative, he always tries to talk to you: we did go here, we did go there. Carl has lots of phantasy. He is a day dreamer, it is alright for that age, right? I think so, no? My daughter is like that too, she talks to herself all the time. Carl gets mad very easily, too, he cries easily.

MIKE first started out like a developmentally delayed child, and could not do anything. Now, He has improved a lot, perhaps because his parents are working with him. His language is not quite clear to me, perhaps because his mother speaks Spanish, his father English. Mike goes to speech therapy, may be he is confused. He understands English really well.

BRITTA's family is from Iran. She is very easily scared about everything. Last week, she did not get a knife and fork, started crying. Often, she imitates what other children are saying. She is the biggest, there are small children at home. Perhaps she is under too much pressure at home. She does not like to much attention. When I say, come on, Britta, you want to sit by me? No, she never
comes. But once you are talking to everybody, she will give answers, she talks to you and she talks to you all the time.

BERTA's parents are Mexican, and she speaks Spanish only. Even though she is coming out more now, she speaks very little English. She does not listen to me, even though I have the feeling that she understands me. I asked GENA, what is wrong with her. She ignores me. She ignores the parents, too. We did the home visit, and she was playing outside. She is always outside, running by herself, crossing the street. Mother said, they just open the door. She is not strict, to soft.

I cannot say much about DANNY. He speaks only Spanish, but seems to begin to understand English now. A friendly little boy, he plays a lot with Jairo and Lester, they live in the same building.

SADAN, an Indian boy is, according to his dad, very different at home, running the house. There he is hyper and really bossy. I think it is because they have a very small home. Mother does baby sitting and is glad he is staying there for three hours. In the classroom, very sweet, talks slow, and plays with children.

GENA ranked Dan, Mike and Jesse into the highest category, and Danny, Sadan and Cory into the lowest category of competence.

DAN's language is very, very advanced. But he is tired of Head Start, because he is very smart, he knows all the
things, he can count, knows all the answers. But does not want to do it, he says, same things, same books. Sometimes I keep him at the table with another activity, or choose him as my helper. I always have to provide something for him because he likes to hit. Sometimes he hits me or Rhonda. For him that is something normal because at home, he is always fighting with his brother. I am feeling sorry for him.

MIKE is different now. First he did not know anything, you put the food there, how can I say it, a little... When you said something to him, he screamed. But now he is different. His speech is getting very clear, he is going to a Speech therapist. He is clean, follows the rules, and he is very smart. He is very good, can wait till it is his turn, and does not like to fight. He likes to talk.

JESSE, a Mexican girl, is a gifted child. She is making lots of progress. Her level of English is advanced, and she starting to speak more sentences, because her mother puts things in English for her. She has a very good memory, she remembers songs after a week. Very, very smart, she can count, knows the colors, follows rules, can cooperate.

DANNY, is still a baby, more like three and a half, even though he is five. He is learning slow, he scribbles, does not draw faces yet. He is very quiet, even his Spanish is poor, he speaks in one word sentences and never initiates a conversation. Some children need a little more time.
SADAN, I think, came a little late, cried a bit first. He had a hard time separating from the parents. He is a very good child, likes to socialize, and does not like to fight.

CORY, an African American child, is very sweet, very beautiful. But he is very slow. For example, he is very, very slow when he washes his hands, a slow person. I always have to push him, Curt, come on. But he is smart and knows the colors.

LOUISE'S descriptions of the children of interest: Maria, John, and Tania at the highest and Frank, Kay and James at the lowest level.

MARIA comes from a bad home situation but is getting over some of those emotional problems. Her mother is American Indian and her father Mexican. She is very outgoing, very verbal and does a lot of story dictations. If something is bothering her, she lets you know, she would use her words. She is an advanced child and recognizes some letters. Maria is very friendly and interacts well with adults and children. She shares well and is also very caring and does things for other children.

What I notice about JOHN, a Mexican boy, is that he is always aware. His cognitive is very advanced for his age. He does a lot of adult talking and uses sophisticated words. At home, he probably watches soap operas. He talks about them the next day. His language is clear, I feel he is
always thinking before he says something. He is very sociable with everybody, feelings for others. On the other hand, he has to learn not to grab things. During circle time he is restless and does not participate a lot. Only if he likes something, he will get into it for a short time. But he is into everything. He is very intelligent, he wants to use a computer. He will get ahead, probably will be a good business person, the way he holds money.

TANIA is from Bangladesh, but speaks English very well. She is really good, friendly, very outgoing and communicating well with other children. When someone is bothering her, she would use her words. She is overactive, jumps and likes to run a lot. She is very advanced and knows colors and letters. She likes to play with playdough and in the pretend area.

FRANK is coming out and using his words a lot more now, but his language is somewhat slurry. His dad says it is the same in Chinese, his first language. He is more like a toddler. He is very sneaky, for example when he is at the water table and the timer signals that his time is up, he would re-set the timer. But he is also very persistent, and does not stop telling you what you want till you know what you want. He plays with all the boys, goes from place to place wherever the action is.

KAY comes from a big, big family. She is Laotian, and tries very hard to express herself in English. But she
tries to be friendly, and to talk to everybody, wants to be social and make friends. What's holding her back is her limitation in speaking English. She uses a lot of body language and movement and sometimes acts like a little mouse, but I think it is getting less. She likes to play at the writing table and to cook in the housekeeping area where she starts to say words like "coffee, tea". To me, she looks upset sometimes.

JAMES is always smiling. His language very delayed, even in Spanish, his primary language. Mom has a hard time with him and neglects him. I noticed him one day in the store, and she did not pay any attention to him. She is angry, because he is mischievous. James told me mom and dad hit him. He needs a lot of attention, gets upset easily, but calms himself down.

DONNA's narratives of Maria, Tania and John, ranked high, and Denise, Kay and James, ranked low.

MARIA is a very outgoing child, very caring and a role-model for other children. She relates well with children and adults and can take turns. When she wants something, she would try to talk about it with other children. She has good language skills and talks about her family. She likes to play in all areas, is very intelligent, knows all the songs.

TANIA is energetic, lively, kind-hearted. She has good language skills, I think her dad speaks to her in English.
Tania is very open, she's correct you when you make a mistake. I feel she is friendly with other children and shares a lot, she is very giving, not a child you have to talk to by any means. Because she is and only child, and mom is going to have a baby, I am working with her on sharing.

JOHN is very advanced, very smart, loves music. He is very talkative, his language is very mature. He speaks mostly Spanish but uses a lot of gestures when he calls me. He also is a good listener and if you have a story book, he is able to tell you about the characters and the things that happen in the story. He is sensitive toward others, but also very aggressive and he does not like to follow the rules sometimes.

DENISE is from Ecuador, very quiet, shy, withdrawn, does not like to say much, mostly likes to be by herself. But she is listening because when I call for transition to do something else, she is going to do that. When she first came to the program, and somebody would take a toy away, she would just cry, but now she lets you know when she has a problem. She is an easy child to deal with I can direct her very easily. She loves puzzles, she can put a seven, eight piece puzzle together in about two minutes.

Louise is concerned about JAMES's speech, it is very immature. He does not speak sentences and is not able to communicate at all. He snatches things away from other
children, and they shy away from him. I need to stay in his area and have to be in control, because I do not want other children to get hurt. He needs lots of love and needs to be hugged a lot, to be told that he is important.

KAY does not know a lot of English, but she is picking up a few words. She often pretends to be a rabbit or puppy, she jumps and a word comes out, like "plate", or something may come out that you don't understand. I think she formed those gestures to get attention. During group discussions she is usually very quiet.
APPENDIX M
TEACHER COMMUNICATIONS BY NOMINATIONS OF HIGH/LOW CHILDREN
TABLE XIX

Teacher Questions by Nominations of High/Low Children,
Tabulated per Teacher: Means per Observation Day, and the
Sum of the Means

<table>
<thead>
<tr>
<th>QUESTIONS ADDRESSED TO:</th>
<th>MEANS PER DAY</th>
<th>SUM OF MEANS PER DAY</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RHONDA</td>
<td>GENA</td>
</tr>
<tr>
<td>&quot;HIGH&quot; CHILDREN</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td>1.92</td>
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<td>1.50</td>
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<tr>
<td></td>
<td>0.88</td>
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TABLE XX
Teacher Directives by Nominations of High/Low Children,
Tabulated per Teacher: Means per Observation Day, and the
Sum of the Means

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<th>DIRECTIVES ADDRESSED TO:</th>
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<th>SUM OF MEANS PER DAY</th>
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<tbody>
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### TABLE XXI

**Teacher Statements by Nominations of High/Low Children,**
Tabulated per Teacher: Means per Observation Day, and the
Sum of the Means

<table>
<thead>
<tr>
<th>STATEMENTS ADDRESSED TO:</th>
<th>MEANS PER DAY</th>
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<td></td>
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TABLE XXII

Teacher Discipline Management by Nominations of High/Low Children, Tabulated per Teacher: Means per Observation Day, and the Sum of the Means

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TABLE XXIII

Teacher Uptake by Nominations of High/Low Children,
Tabulated per Teacher: Means per Observation Day, and the
Sum of the Means

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<tr>
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**TABLE XXIV**

Teacher Restatements by Nominations of High/Low Children, Tabulated per Teacher: Means per Observation Day, and the Sum of the Means

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<th>RESTATMENTS ADDRESSED TO:</th>
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<th>SUM OF MEANS PER DAY</th>
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TABLE XXV

Teacher Repetitions by Nominations of High/Low Children:
Means per Observation Day, Tabulated per Teacher, and the Sum of the Means

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<th>REPETITIONS ADDRESSED TO:</th>
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12.9
1.8
TABLE XXVI

Teacher Positive Evaluations by Nominations of High/Low Children: Means per Observation Day, Tabulated per Teacher, and Sum of the Means

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<th>SUM OF MEANS PER DAY</th>
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<td>1.17</td>
<td>1.17</td>
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<tr>
<td>0.60</td>
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<td>0.69</td>
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<td>0.27</td>
</tr>
<tr>
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<td></td>
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</tr>
<tr>
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<td>0.06</td>
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</tr>
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<td>0.22</td>
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## TABLE XXVII

Teacher Negative Evaluations by Nominations of High/Low Children: Means per Observation Day, Tabulated per Teacher, and the Sum of the Means

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<tr>
<th>NEGATIVE EVALUATIONS ADDRESSED TO:</th>
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<th>SUM OF MEANS PER DAY</th>
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<td>GENA</td>
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<td>&quot;HIGH&quot; CHILDREN</td>
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<tr>
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<tr>
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APPENDIX N

TEACHER COMMUNICATIONS BY INVITATIONS TO REPLY, Addressed TO HIGH/LOW CHILDREN
TABLE XXVIII

Questions by Invitations of Any Child to Reply, Tabulated per Teacher: Means per Observation Day, and the Sum of Means

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<tr>
<th>QUESTIONS ADDRESSED TO:</th>
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<th>SUM OF MEANS PER DAY</th>
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</table>

## TABLE XXIX

Uptake by Invitations of Any Child to Reply, Tabulated per Teacher: Means per Observation Day, and Sums of Means

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<th>SUM OF MEANS PER DAY</th>
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<tr>
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</tr>
<tr>
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</table>
APPENDIX O

INITIATIONS BY CHILDREN TEACHERS RANKED HIGH AND LOW
### TABLE XXX

Initiations by Children Teachers Ranked "High" and "Low",
Tabulated per Teacher, and Total Frequencies

<table>
<thead>
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<th>CHILD INITIATIONS:</th>
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TABLE XXXI

Initiations by Children Teachers Ranked "High" and "Low",
Tabulated per Teacher: Means per Observation Day

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<thead>
<tr>
<th>CHILD INITIATIONS:</th>
<th>MEANS PER DAY</th>
<th>TOTAL</th>
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<td>GENA</td>
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<td>0</td>
<td>0.06</td>
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15.67

1.02
REFERENCES


The author, Irmgard Miriam Gruber, was born and raised in Germany. After graduating in "Socialpedagogy" with an A.A. in Emden, and with a B.A. in Bremen, she taught child development at a college for Early Childhood Education in Munster, Germany. In 1975, she emigrated to the United States, and earned a M.A. in Educational Psychology from the University of Michigan in 1980. She began her doctoral studies at the Erikson Institute, Chicago, in 1990, and is now working as an associate professor of Early Childhood Education at Chicago State University.

For the last 15 years, she has been working in behalf of children at risk for failure. She has held several administrative, teaching, and research positions, including the development of Children and Youth Outreach Programs and as Research Associate at the Erikson Institute, Chicago. Her special interest is in linking child development research, policy, and practice.
The dissertation submitted by Irmgard M. Gruber has been read and approved by the following committee:

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Erikson Institute, Chicago

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Professor, Child Development
Erikson Institute, Chicago

Gerald Gutek, Ph.D.
Professor, Education
Loyola University Chicago

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that the necessary changes have been incorporated and that the dissertation is now given final approval by the committee with reference to content and form.

The dissertation is, therefore, accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

11 | 14 | 96
Date

Director's Signature