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TEXT FORMATION: A COMPARATIVE STUDY OF LITERATE AND PRE-LITERATE FIRST GRADE CHILDREN

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TEXT FORMATION: A COMPARATIVE STUDY
OF LITERATE AND PRE-LITERATE FIRST GRADE CHILDREN

DISSERTATION

Presented in Partial Fulfillment of the Requirements
for the Degree Doctor of Philosophy in the
Graduate School of The Ohio State University

By
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ACKNOWLEDGMENTS

This research was supported in part by grants from The National Institute of Education under Grant Nos. 79-0039 and 79-0137 to Professors Martha L. King and Victor M. Rentel of The Ohio State University for the study of early writing development in young school-age children. I am indebted to Professors King and Rentel for providing the context for the inquiry reported here and the opportunity to pursue it while I worked as a graduate research associate on the writing development project. Their support and encouragement are gratefully acknowledged.

Also of critical importance in carrying out this study were fellow graduate research associates Ellen Martin Huff, Christine Pappas, Lyn Zalusky, and the late Cindie Cook who participated as story listeners and scribes in collecting data used in this study. Valued colleagues and valued friends. Lyn also transcribed audio-tape recordings of the data collection sessions, and Chris co-edited the original transcripts and independently coded a subset of the texts of this study for a reliability check. Cindie helped obtain the reading classification data at one of the schools and provided the sunshine that warmed us all. She is missed and lovingly remembered.

My thanks go to the children and teachers who participated in this study, sharing a good portion of their school lives and their work with
me over these many months. They provided the data of the study, but they also provided renewed appreciation for the ecology of a dynamic learning environment.

During the course of a graduate education one encounters certain individuals who contribute in especially significant ways to the quality of the academic experience. The members of my graduate committee have so contributed. My deepest gratitude goes to my advisor, Victor Rentel, who has been intellectually stimulating, supportive, and always helpful throughout my graduate program. His constructive responses to early drafts of this dissertation are especially appreciated. Professors Martha King and John Kennedy have shared their creative ideas and intellectual excitement in the areas of child language and research design and analysis, respectively. Their interest and advice is valued and appreciated. In this context I also want to thank Professor Neal F. Johnson of the Psychology Department for providing me invaluable research experience in his experimental psycholinguistics laboratory.

Finally, a very special thanks goes to Raleigh, Hillary, and Mark—closest friends, strongest supporters, beloved companions, and the most nurturing family possible.

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CHAPTER I
INTRODUCTION

Background

When children enter school at the age of five or six they bring with them an impressive oral language competence. From a biological perspective language is well established by four years of age (Lenneberg, 1967). Children at school entry have largely mastered the phonological system of their native language; they use the basic sentence patterns in the language; they have a working vocabulary of thousands of words (Crystal, 1976; Menyuk, 1977). In view of these accomplishments it can be said that the child "comes to school the master of a mother tongue" (Olson, 1977b, p. 76).

Acknowledging the rather sophisticated mastery of this first language learning does not involve the claim that language learning is complete. Quite the contrary; as developmental studies of certain aspects of the language of school-age children have demonstrated, language growth continues well into the school years (Chomsky, 1969, 1972; Hunt, 1964; O'Donnell, Griffin & Norris, 1967; Templin, 1957). In this matter of language development Halliday (1978) makes a helpful distinction: "By the age of two and a half or even earlier, the child has mastered the adult language system; the framework is all there. He will spend the rest of his childhood--the rest of his life, even--mastering the adult language" (p. 27).
Literacy is an important aspect of the adult language (keeping in mind Halliday's distinction above) in contemporary schooled cultures. Among the demands made on children at school entry or shortly thereafter is the demand that they become literate. A major focus of the early years of schooling is the fostering of a transition from reliance on oral language—the "mother tongue"—to an expanded linguistic competence and range of uses which includes facility in written language as readers and writers. However a systematic theory of literacy does not exist, and despite recent conceptual advances among reading researchers and others in appreciating reading and writing to be indeed language-based processes (K. Goodman, 1968, 1970; Smith, 1973, 1975, 1978), little is known about the details of the transition from oracy to literacy. We are not yet able to identify critical dimensions of this expansion of linguistic competence.

The demand for literacy that formal schooling brings is an overt one in terms of expectations the culture holds for schooling. However there is another aspect to the demand for literacy. Schools have been fairly characterized as "predominantly literate enterprises" (Olson, 1977b, p. 66) not only because of their assigned and recognized mission, but also because the ecology of the school presents an environment in which language is used in largely new ways and for new purposes (Doughty & Doughty, 1974; Rosen & Rosen, 1973; Thornton, 1974). Literacy is a prime example of language used in new ways and for new purposes.
Mother tongue learning develops largely in contexts involving the following: face-to-face interaction, shared perceptual environment, intimacy—or at least familiarity—with one's interlocutors, and language which interacts with the on-going action frequently to the point of being ancillary to such action. Indeed it is likely that uses of language so firmly embedded in shared attention and joint action allow the young child to map meanings onto wordings in the first place (Bruner, 1975; MacNamara, 1972). As Cook-Gumperz (1979) observed, conversation provides the context in which mother-tongue linguistic skills are learned.

Literacy, however, involves language which is "abstracted from the course of events" (Francis, 1975, p. 163), "prised out" of or disembedded from the supportive matrix in which it was originally learned (Donaldson, 1978, p. 82). In uses of language associated with literacy, communication is not limited to individuals who share a perceptual environment as well as a social history. Indeed the range of communication increases dramatically with literacy. Halliday (1973) has proposed that in initial language acquisition expanding uses of language change the formal features of language. If literacy represents continued language development, we may expect the enlarged functional potential of graphic language to change the formal features of literate children's language.

It has been suggested (Cook-Gumperz, 1977; Halliday, 1978) that being able to use language in indirect and wider-ranging contexts freed from dependency on situational features is what distinguishes the
language of children from that of adults. There is some empirical evidence that as school-age children get older they are increasingly able to disembed language from situational constraints (Francis, 1974; Martin, 1977). It seems reasonable to inquire as to the role of literacy learning in the development of this ability.

In summarizing their literature review of the nature of language development, Gibson and Levin in *The Psychology of Reading* (1975) conclude: "...the pre-reading child is a reasonably mature language user, although substantial development in segmentation, morphology, grammar, and meaning continues to take place during the course of learning to read and probably is influenced by the acquisition of literacy" (p. 155, emphasis added). This cautious conclusion suggests that there is much yet to be learned about language development, especially in relation to literacy. As Gibson and Levin indicate, we do not have a comprehensive picture of what happens to children's language during the course of learning to read.

**Literacy: An Operational Definition**

For the purposes of this study, literacy is equated with the ability to read passages of connected discourse with fluency and understanding as determined by teacher evaluation and standardized test performance. While it is recognized that literacy development is an on-going lifetime process and that the roots of literacy lie in the child's first contacts with graphic language and in his appreciation of the possibilities of language (Y. Goodman, 1980; Wilkinson, 1971), it is assumed in this study that independent access to the patterns and uses of graphic
language marks a significant point in the transition to literacy. It seems reasonable to assume that attaining reading fluency entails learning some distinctions relative to the structure and functioning of language in "deseMBEDded" contexts.

**A Suggested Comparison**

Although many if not most children in literate cultures are on their way to learning how print is organized and used before they arrive at school (Clay, 1972; Y. Goodman, 1980), only some of them are fluent readers before formal literacy instruction begins. This fact suggests an interesting comparison. There has been an emphasis in the last decade toward understanding literacy in terms of identifying what the skilled or fluent reader does, which is assumed to be what the beginning reader is trying to do (see for example the work of Smith, 1973, 1975, 1978; Clark, 1976). A comparison between fluent young readers and their pre-literate peers relative to the language they actually use may offer insights into language development associated with literacy.

**Language in Use: Text**

When dealing with language as it is actually used, as it functions across a range of uses, we are dealing with language as text, semantic units of language integrated within themselves and with the environments in which they occur. Common to every use of language, oral or written, is that such language is meaningful, contextualized, and distinguishable from random sequences of utterances (Halliday & Hasan, 1976). Passages of natural language whether spoken or written, of whatever length, dialogue or monologue, tend to form unified wholes. **Text** is a term used
in linguistic description to refer to such semantically unified instances of language, and **texture** the term used to characterize the quality of being a text (Halliday & Hasan).

One aspect of texture is the use of certain linguistic devices which tend to link or **tie** elements of a text to each other or to aspects of the environment in which they occur. Ties are effected when the interpretation of a text element is dependent in some way (through relations of reference, form, or semantic connection) on other information. Ties represent relations of meaning between particular instances when text information **presupposes** other information, as in the following sentences:

[1.1] Once there was a mother and her little girl. And they were very poor.

And presupposes information contained in the entire first sentence. The two sentences are linked by the semantic connection of additivity. They presupposes a mother and little girl in the first sentence. These items are linked through the relation of reference. The above are examples of **endophoric** (within text) presupposition. This type of linking or tie is "cohesive" in that it binds structurally unrelated (i.e., not defined by constituency) elements into text.

Halliday and Hasan in their theoretical work relative to cohesion in English (1976) have identified five general categories of linguistic devices through which links or ties in a text can be realized. They are: Reference, Substitution, Ellipsis, Conjunction, and Lexical Cohesion. These categories represent resources available in the language for integrating text. Relations of meaning between particular
instances may be confined to the text itself as in the above example, or they may presuppose information available in the environment in which the text functions, as in the following scenario and language example. An adult and a child are looking at an illustrated storybook together. The child points to a picture of a woman and little girl watching a pot overflow with porridge and says:

[1.2] They got lots.

The interpretation of they, a reference item, and lots (of porridge, understood), an example of ellipsis, are available in the environment in which the language is taking place—in this case, in the picture. These items are classified as exophoric (literally a "pointing outside" the text). The woman and little girl and the overflowing porridge are part of the shared perceptual context, and it is by recourse to this shared context that the linguistic utterance becomes comprehensible.

Prior to the child's utterance above, the adult may have asked: "What happens here?" referring to the picture they are both looking at. And the adult may have followed the child's utterance "They got lots" with "And what are they doing there?" It is clear that a linguistic text is being constructed; all the utterances belong to one text. But the text, which happens to be a dialogue, reflects collaborative effort between the two participants and, furthermore, its reliance on exophoric presupposition (the use of here, they, lots, and there) renders it context bound to a high degree. The linguistic text is incomprehensible without recourse to actions and objects in the larger environment in which the text functions.
Texts can be expected to vary in the types of "cohesive" (within-text) ties they display and in the extent to which relations in meaning are confined to the text itself (endophoric presupposition) or reach out to aspects of the situation (exophoric presupposition). This variation is a function of the demand characteristics of a situation in which language is used and of a text producer's knowledge of the patterning of resources for constructing texts typically associated with various uses. The concept of a tie, an occurrence of a pair of presupposing/presupposed items, makes possible the analysis of a text in terms of the kinds and number of ties which it displays, leading to a systematic account of patterns of texture (Halliday & Hasan). While no one has fully specified the differences between speech and writing in terms of the patterns of texture associated with these different forms of language, it is reasonable to expect that texture differs because of the responsibility on language itself for communicating meaning in disembedded contexts such as those characteristic of uses of graphic language. An obvious potential difference is an increased reliance on endophoric presupposition with typical graphic language uses. Communication in graphic language, typically over time and space and to possibly unknown others, requires that more information be lexicalized in the text. In graphic language uses, we may see the text superseding the situation as the relevant environment in which relations of meaning operate.

A child's first-hand experience with graphic language makes available the linguistic strategies and their patterning relative to text
construction appropriate for communicating with an increasingly large potential audience. The child who in first language learning was inducted into the interpersonal world of meanings through reciprocal activity and mutual responsiveness (Bruner, 1975; Shields, 1976) is, in literacy learning, inducted into a world of meanings increasingly lexicalized in the text. What consequences does this have for language development? One aspect of language development that might be expected to occur with literacy is the ability to emancipate verbalizations from situational dependency, at least in certain contexts of use. As mentioned earlier there is some evidence that increased emancipation from situational dependency (as indexed by decreased reliance on exophoric presupposition) occurs with age (Francis, 1974; Martin, 1977); but in same-age peers will analysis of texture reveal evidence of a shift from exophoric to endophoric presupposition with literacy learning? In addition to changes in text forming strategies in terms of the exophoric/endophoric distinction, are there differences between literate and pre-literate children relative to the endophoric categories of cohesion they rely on in text formation? Answers to these questions approached through the identification of the number and types of ties children's texts display could shed light on the process of language development we know as literacy.

Comparison in the Oral Medium

Given the argument above regarding the relationship between first-hand experience of graphic language and the ability to emancipate language from situational dependency, text forming behaviors of literate
and pre-literate children may be expected to differ. However in making comparisons between literate and pre-literate children with respect to the language they use, one is be definition constrained to sample language in the oral medium. Can oral language reveal aspects of language development associated with literacy? Ruqaiya Hasan (1973) points out that spoken and graphic varieties of language differ, but that this difference is not bound to medium. The actual manifestation, the discourse medium itself, is not the crucial factor. To use Hasan's illustrations, a transcription of conversational oral language is not, simply by virtue of being visually represented, an instance of written language; nor is an orally-delivered news broadcast an instance necessarily of spoken language. This latter example, Hasan observes, can involve speaking out a text which may have never been written but which, as it unfolds, "bears all the characteristics of written language, save the orthographic manifestation" (p. 280). Thus we may assume, along with Hasan, that oral and graphic media correlating with language differences or variation "do not refer to the physical manifestation of the text in question, but rather to some properties of the text, which are normally associated with these basic forms" (p. 280). An assumption in this study is that orally produced texts can be elicited in contexts approximating constraints typical of graphic language. These samples of language may then be examined for evidence of differences in text forming strategies among children at different points in the transition to literacy.
Storytelling is the task used in this study to elicit samples of language. Storytelling may be seen as a linguistic event in which language itself, rather than accompanying action, is the primary vehicle for communicating meanings. Verbalization is the significant activity in storytelling, and it is expected that the text itself must become the relevant environment for establishing meaning relations contributing to text unity. When telling or retelling stories to naive others, one must make meanings available in the text. Moreover, storytelling represents the monologue, in which the storyteller bears solo responsibility for textual integration. To the extent that literate children have internalized a model of language which includes what language is and how it works in this type of contextual configuration, it is expected that they will draw on these resources in response to the demand characteristics of the situation and design a text with graphic language properties. Analysis of the distribution and patterning of cohesive ties and exophoric presupposition in oral narratives may reveal significant differences between literate and pre-literate children which may give evidence of language development associated with literacy.

Statement of the Problem

Little is known in detail of how children's language changes during the course of learning to read. The literature bearing on language learning and on differences in the way spoken and graphic varieties of language are organized and used suggests that an analysis of the text forming strategies of children at different points in the
transition to literacy may shed light on this question. The purpose of this study was to describe selected aspects of texture in literate and pre-literate children's narrative texts with the aim of discovering whether differences in text forming strategies exist among children who are grouped according to level of literacy development. In this study narrative texts produced by 6/7 year-old children were analyzed using Halliday and Hasan's framework of cohesion analysis (Halliday & Hasan, 1976; Hasan, in press). Frequencies of intersentence endophoric presuppositional relations within five general categories—Reference, Substitution, Ellipsis, Conjunction, and Lexical Cohesion—were coded in the narrative texts along with the frequency of exophoric dependency. The assumption was that analysis of texture would be sensitive to underlying distinctions children acquire during the course of literacy development relative to the structure and function of language in disembedded contexts, contexts associated with typical uses of graphic varieties of language. The major question asked of the data was: given texts produced in similar contexts by children at different points in the transition to literacy in what ways do they differ in terms of the aspects of texture identified, and in what ways are they alike?

Overview of the Study

The two text production tasks which provide the data for this study represent school uses of language and involve constraints typically associated with graphic language. First-grade children during the early weeks of school were asked to: 1) retell a story that had been read to them to an interested adult who ostensibly didn't know the
story, and 2) dictate to an adult scribe a story of their own composi-
tion. The retelling and dictated oral narratives were audio-taped
and later transcribed. The children were made aware that a wider
audience (other "teachers" and children) would be listening to the
tape-recorded stories and reading the dictated copy. The transcrip-
tions of the audio tapes provided the protocols that were analyzed
for features of cohesion and exophoric presupposition.

Although the two narrative tasks in the study are seen to be
similar, they are not identical. It was assumed that both call for
disembedded language. However in the first task, content is made
available to children which they must then restructure into a text; in
the second task children were in command of both content and text form-
ing strategies. What consequences does this different source of con-
tent have on the language children use? Also to be considered is the
effect of "cuing" provided in the dictation condition by seeing one's
language graphically rendered. These dimensions of task difference
were varied in the study and their effect on text formation explored.

The subjects in this study were middle-class, 6/7 year-old first-
grade children in two schools in the Columbus, Ohio area. All data
were collected during the early weeks of the school year. Data from
30 children were entered into the statistical analyses reported here,
with equal numbers of boys and girls represented. Level of reading
development, sex, and narrative task were the factors articulated into
the design of the study. Dependent variables were indexed by the
number and types of linguistic ties displayed in the narrative texts
produced by the children in the two tasks.
Scope and Limitations of the Study

This is an exploratory study undertaken to determine if groups of children at different points in the transition to literacy rely on different text forming options in narrative tasks. The assumption was that text forming strategies may provide a window for observing the process of language development we know as literacy. In this study only selected aspects of texture, those revealed by analysis of inter-sentence text forming relations, were explored. Aspects of texture within the sentence (theme and information systems and intrasentence cohesion) were not pursued.

In interpreting the results of this study, the following limitations should also be considered:

1. This study focused on differences among naturally occurring populations, specifically, literate and pre-literate young children. The objective of a comparative study is to garner some clue to the processes responsible for these differences and to the avenues along which more intensive study might proceed (Bock, 1975). The limitation of the comparative study is that causal inferences relative to subject characteristics and subject responses are not warranted. Thus if certain responses are shown to be associated with certain subject characteristics, the comparative study "does not establish that the subjects' responses can be changed by changing these characteristics" (Bock, p. 18).

2. The study looked at language development, essentially a longitudinal within-subject question, using cross-sectional between-
subject data. Therefore it is liable to the limitations of all cross-sectional approaches to longitudinal questions.

3. The children who comprised this sample were not randomly selected from populations of literate and pre-literate children. Therefore the results may not be generalizable beyond the sample.

Organizational of the Study

Selected literature bearing on this study is contained in Chapter Two, which includes an overview of the theoretical framework for analyzing intersentence textual patterns. Procedures of the study are detailed in Chapter Three, and Chapter Four presents results of the statistical analyses of the data. Chapter Five provides a summary of the findings and outlines implications for future research.
CHAPTER II
RELATED LITERATURE

Introduction

The purpose of this study was to describe the text forming strategies of children at different points in the transition to literacy in two narrative language contexts using the framework of cohesion analysis suggested by the work of Halliday and Hasan (1976). The aim of the study was to determine if differences exist between literate and pre-literate children with respect to these strategies. Reliable differences that emerge from the analysis of these selected aspects of texture including both endophoric and exophoric presuppositional relations are taken as evidence of language development associated with literacy.

This chapter is organized into three sections. The first section considers the question of why one would expect to find differences in language used by literate and pre-literate young children. This discussion focuses on selected literature addressing what is learned when one learns language, first in terms of language learning in general and then in terms of literacy learning specifically. In section two, the kinds of differences in language use one would look for in a comparison based on literacy acquisition is approached through literature bearing on differences between spoken and graphic varieties of language. The third section presents the framework for analyzing samples of language
for text construction strategies suggested by the work of Halliday and Hasan (1976) and Hasan (1968; in press).

**Consequences of Language Learning**

**A Schema-Theoretic View**

A theoretical framework for looking at what one learns in the course of learning language is provided by current work in psycholinguistics under the rubric of "schema theory." Contemporary notions of schema theory applied to language derive from earlier work in philosophy, neurophysiology, and the psychology of memory. Basically, the term schema (plural: schemata or schemas) is used to conceptually represent hierarchically organized and interrelated knowledge about complex situations, objects, and processes which an individual is postulated to have internalized as a result of experience with the world. Schemas are seen as patterned information about objects, situations, and events (including language events) which serve as guides for directing action relative to these objects, situations, and events (Anderson, 1977; Neisser, 1976; Rumelhart, 1977; Winograd, 1977). The formalism of schema is increasingly used to characterize the diverse knowledge which a person has acquired relative to language comprehension and production.

Winograd's schema-theoretic view of discourse comprehension and production is consistent with schema notions current in the cognitive psychology literature. Winograd's formulation, however, is more comprehensive than most in that he identifies several distinct types of schemas that form part of the cognitive structure of a language user.
and which are used in understanding and producing language. Three major categories or general types of schemas are postulated. The first schemas he identifies are domain schemas, schemas dealing with the subject matter of the discourse, usually "in the form of plans and sequences of actions taken by humans" (p. 75). This is the type of schema use involved in current burgeoning research in children's story understanding and recall (Mandler & Johnson, 1977; Stein & Glenn, 1979). Winograd acknowledges the importance of domain schemas, but he points out the importance of his two other categories which represent relatively unexplored and/or overlooked aspects of a language user's knowledge.

The second category Winograd identifies represent schemas relative to the communication situation itself. These communication schemas operate in terms of the pragmatic context, the immediate processing context, and the psychological context. Within the category of communication schemas Winograd points out that people learn that certain linguistic forms are appropriate in face-to-face interaction while other forms are appropriate when communicating over space (as in a telephone conversation) and over space and/or time (as in graphic language). Other communication schemas involve social distance and mutual expectations. He also postulates a set of schemas for possible cognitive states, describing which information is known, remembered, or in the focus of attention. The marking or distributing of "given" and "new" information in a frame; the use of pronouns, elliptical constructions, and the definite article the are seen as reflecting
dimensions of linguistic choice sensitive to the constraints of the communication situation and controlled by communication schemas.

The final set of schemas postulated involve knowledge relative to the structure of discourse, of "the conventions for stringing together words and utterances learned as part of a given language and culture" (p. 81). These patterns of discourse schemas provide the guide for integrating language into texts. Three subclasses of discourse schemas are identified:

Interpersonal schemas - conventions for interactions between participants in the communication

Rhetorical schemas - conventions for laying out a reasoning sequence which speaker wants the hearer to follow

Narrative schemas - conventions for connecting a sequence of utterances into a coherent text

Knowledge represented by these diverse schemas, acquired in the process of learning language, is expected to influence the "design process in which a speaker (or writer) devises a linguistic structure which attempts to achieve a combination of communicative goals using the resources available in the language" (p. 68). Thus the picture of a language learner that emerges from Winograd's discussion is that of an individual with a large and very diverse collection of schemas relative to: 1) knowledge of the world; 2) knowledge of the various communication situations to which he has been exposed; and 3) knowledge of standard patterns of discourse in the language he has learned.
A similar conceptualization of a language user's knowledge of language is put forward via a functional description of language by Halliday (1973) who suggests that the semantic system is organized into three basic components: the interpersonal, the ideational, and the textual. The interpersonal is the participatory function of language, concerned with expressive, conative, and social functions. The ideational is the content function of language, its property of being about something. Through this function the speaker or writer embodies his experience of the world in language. The textual "comprises the resources that language has for creating text...for being operationally relevant, and cohering within itself and with the context of situation" (Halliday & Hasan, 1976, p. 27). Halliday sees the creation of text resulting from a series of options available to the language user within the context of specific environments. And he maintains that in learning language, the child develops conceptions of what language is and how it works from his own experience of language. Language learning involves the development of "relevant models" of language (Halliday, 1973).

Winograd's notion of language as a design process responsive to a variety of constraints and controlled by organized, patterned knowledge about language and its uses seems quite similar to Halliday's conception of text as representing semantic choice subject to the constraints of both relations within language and relations between language and relevant features of the material and social environment. Learning language in both views would seem to involve learning the parameters of
contextual constraints on language and how to realize text, operational instances of language, within those parameters. Winograd, from a psychological perspective and Halliday, from a linguistic perspective, converge on the notion that one's experience of language involves learning how language functions and is structured in contexts of use.

Consequences of Literacy

There is a body of literature which suggests that literacy learning per se has consequences for the individual in terms of the language he uses. There are, however, two kinds of claims made relative to these consequences, and it is important to be clear about their implications.

The first claim, which for convenience can be called the "language specific" consequences claim, involves the suggestion that becoming literate promotes the use of different verbal strategies. Experience with graphic language results in a type of metalinguistic awareness which enables the individual to focus on language itself and to see it apart from, disembedded or abstracted from, the ongoing situation or flow of events which accompany it. The notion that such awareness of language as an object in its own right is related to literacy is frequently mentioned in the language development literature (for example see the collection of papers in Sinclair, Jarvella, & Levelt, 1978; also Cazden, 1974; Francis, 1975).

In this vein Cook-Gumperz (1977) suggests that literacy learning results in the ability to appreciate language as a structure separate from action. She offers that this ability promotes decreased reliance
on the non-verbal aspects of communicative events, such as physical features of setting, kinesic gestures, and prosodic information, and a concomitant "foregrounding of the semantic-syntactic channel as the dominant and socially recognized carrier of meaning" (p. 105). Cook-Gumperz's work suggests a shift, with literacy, from communicative strategies which rely on "situated meanings" to strategies which entail a more verbally explicit message. Thus the child (see example [1.2] in Chapter One) who relied on pointing to objects in a shared perceptual context to make meanings available to a listener might be expected, with literacy learning, to verbalize those meanings. Instead of "They got lots" the child might say "The lady and little girl got lots of porridge."

A second kind of claim dealing with the consequences of literacy sees literacy effects extending beyond verbal strategies and affecting general cognitive development in far-reaching ways. This "rationality development" claim posits that literacy promotes major transformations in concept formation and in formal, logical reasoning. While both claims involve cognitive development, the latter suggests cognitive development of a particular kind and generalizes it across a wide range of tasks.

In the literature representing this general rationality development view, strong claims are made for the relationship between literacy and formal logical reasoning and "abstract" thought (Greenfield, 1972; Greenfield & Bruner, 1966; Luria, 1971, 1976; Olson, 1977a, 1977b). Luria's work in the 1930s with illiterate populations in North Central
Asia (using syllogisms to study the thought process) led him to conclude that literacy was associated with the ability to make deductions, draw conclusions, and in general to go beyond the information given.

Greenfield, having worked with largely illiterate populations as did Luria but more recently, also sees a link between literacy and rationality. She hypothesizes that since oral language is more context dependent than written language, oral language is "tied up with context dependent thought, which in turn is the opposite of abstract thought" (1972, p. 169, emphasis added).

Recently, Scribner and Cole (1978) have urged caution in generalizing literacy effects. While acknowledging that cross-cultural research, including their own, has provided evidence that "personal engagement in reading and writing does have psychological consequences" (p. 457), they warn against generalizations about major transformations in mental capacities across a wide range of tasks. They argue, instead, that the consequences of literacy are all highly specific to activities with language functioning in specific contexts:

The results of our research among the Vai present us with two apparently contrasting conclusions about the effects of literacy. The literacy as [general cognitive] development view would have us believe that literacy, in combination with schooling, produces generalized changes in the way people think. Our functional perspective suggests that the effects of literacy, and perhaps of schooling as well, are restricted—perhaps to the practice actually engaged in or generalized only to closely related practices. (p. 457)
Scribner and Cole conclude that evidence from studies of mental skills and literacy does not support generalizations "that non-literate do not think abstractly, do not reason logically, or lack other basic mental processes" (p. 457).

A conservative stance relative to the consequences of literacy would be cautious in accepting an oral versus literate "modes of thought" dichotomy. However such a position would accept that uses of graphic language can be expected to promote specific skills, but only under conditions evoking those skills. There is no expectation that certain verbal strategies which may be associated with literacy would generalize across the whole range of contexts of language use.

**Summary**

The literature relative to consequences of language learning supports the assumption that a child who has learned to operate with graphic language as a reader has acquired some degree of tacit knowledge of both the communication situations in which graphic language typically functions and the resources in the language which "realize" texts in these situations. Such knowledge can be expected to be brought into play when a communication situation involves an ecological setting appropriate to writing. Thus it appears fruitful to look at the verbal strategies of literate and pre-literate children in what Winograd calls "the design process" of an utterance to describe differences that exist with respect to text formation. These differences may suggest the underlying distinctions children acquire between language as it is typically spoken and language as it is typically
written (King & Rentel, 1979) which may offer insights into language development associated with literacy.

**Language: Oral and Written**

Accepting the view that literacy involves an extension of oral language and that similar processes are involved in both does not force an assumption that the tasks of oracy and literacy are identical. It does assume that there are underlying psychological and social processes that human organisms share which give rise to language as an abstract system, independent of medium. However in seeking to understand the transition to literacy it seems sensible to start by considering the relationship between speech and writing, especially the differences between the typical forms and functions of these different varieties of language. Do these varieties of language differ only in that speech utilizes the acoustic medium while writing utilizes the visual? If this aural/visual difference is the critical difference between spoken and written language then what children do when they become literate is simply answered: children solve a perceptual problem; they learn to recode writing into speech and speech into writing. However, the literature suggests that distinctions based superficially on medium are inadequate to explain what learning to be literate involves. There is growing acknowledgment found in the literature that the differences between speech and writing are more abstract and more complex than generally appreciated.

**An Early View:** Many years ago the Russian developmental psychologist Lev Vygotsky speculated on the differences between oral and written
language. Vygotsky noted that written language, even at the earliest developmental stages, requires a high level of abstraction since it is speech "in thought and image only" (1962/originally published posthumously in 1934). Since written language, Vygotsky observed, is language without an interlocutor, it must be consciously directed and sustained. In oral language, whose ontogenetic roots were seen in the earliest human interactions (an idea later developed by Bruner, 1975), the dynamics of the conversational exchanges give direction to the discourse. The changing "motives" of the participants determine the turns conversation takes. In other words oral language typically represents the dialogue (or multilogue) in which two (or more) participants collaborate on a discourse. Written language, on the other hand, typically represents the monologue. From this perspective it can be said that the writer in production and the reader in comprehension are on their own in creating and recreating a web of meaning.

Oral language, Vygotsky also observed, is embedded in an immediate context. He suggested that in written language one is obliged to create a situation, represent a situation to oneself while detaching oneself from the actual situation. Vygotsky also noted that prosodic and paralinguistic features of oral communication provide information relative to meaning whereas in written language "lacking situational and expressive supports" one must use many more words, and "use them more exactly" (p. 144). Vygotsky's investigations led him to conclude that written language differs from oral speech "in both structure and mode of functioning" (p. 98).
Writing - Not Simply a Device for Recording Speech: Vygotsky's views apparently did not represent a universal position relative to the relationship between speech and writing. A competing—and popular—view, especially in this country and reflected in reading pedagogy, is expressed in the statement made by the influential American linguist Leonard Bloomfield that "Writing is merely a device for recording speech" (Bloomfield & Barnhart, 1961). Bloomfield and the American Structuralist School were interested in largely unwritten native American languages and thus focused on phonology, so this somewhat narrow view of the relationship between speech and writing is not terribly surprising. This emphasis on phonology relative to literacy is apparent in "phonics" approaches to reading instruction and in traditional spelling instruction (Thornton, 1974). However current literature suggests that Bloomfield's view of graphic language does not reflect contemporary linguistic thinking (although it may still be reflected in pedagogy).

Dialogue and Monologue: Many workers in the field of language now share Vygotsky's notion that important differences do exist between the two varieties of language. Bollinger (1975), like Vygotsky, observed that most spoken language occurs as dialogue, typically consisting of chains of responses and responses to responses. This is a type of collaboration on a text which Bollinger calls "conversational ping-pong," a succession of gives and takes. An echoing Vygotsky's observations relative to writing, Bollinger sees graphic language as representing the writer's monologue. Moreover, writing, says Bollinger, "is language in edited form" (p. 479).

Conversation and Prose: Abercrombie (1965) touched on some salient differences between typical oral and written forms of language in his consideration of the differences between conversation and what he termed "spoken prose." While both occur as oral manifestations of language, he sees conversation as a linguistic event where there are opportunities for give and take; there is an expectation for more than one active participant in the discourse. He maintains that the structure of a conversational language piece is quite different from spoken prose at the phonetic level as well as at other linguistic levels. He argues that "Prose is essentially language organized for visual presentation" (p. 3).

Abercrombie also notes the apparent "incompleteness" of conversational language: "what in prose must be put into words is often... perfectly clear from the context, and therefore not mentioned" (p. 8). Prose, then, is typically more explicit than conversation. He also notes the greater syntactic complexity and/or apparent "disorganization" of conversation; the frequency of repetitions; and the occurrence of "intimacy signals," words and phrases such as "you know," "well," "I mean," and "you see" which serve essentially an interpersonal function in the discourse. Abercrombie comments on the difficulty of transcribing a conversation in graphic form. Even with phonetic notation, he observes that much of the meaning is lost. Writing, he concludes, is a device for recording prose, not conversation.

Feedback and Situated Meanings: Other linguists stress that differences between graphic and spoken varieties of language inhere in the
face-to-face situated character of the latter linguistic event (Cook-Gumperz, 1977; Doughty, Pearce & Thornton, 1972). Shared physical context encourages the construction of a collaborative type text in which the reactions of the listener (both linguistic and non-linguistic reactions) influence the direction and design of the discourse. One can monitor and adjust a discourse on the spot on the basis of interlocutor feedback. Also significant to the text of the discourse is the fact that in typical oral language aspects of the physical situation serve as carriers of meaning, and thus not all of the intent of the discourse need be lexicalized (Cook-Gumperz, 1977). Gestures, intonation, and objects present on the scene represent redundancies serving as alternative sources of meaning to the participants which are not explicitly realized in the text.

Social Function of Texts: Spoken language typically occurs as an accompaniment to on-going action, with the text tied to the immediate scenario. This is language-in-action or what has been called "pragmatic speech." A characteristic difference between language-in-action and other uses of language was documented by Ure (1971) in a study of a large corpus of oral and written texts. Ure found that oral texts differed from written ones with respect to an index of "lexical density." Lexical density is the ratio in a given text of words with lexical properties (sometimes called "content" words) to the total number of words. Words with lexical properties ("contentives") are those words which are traditionally categorized as nouns, verbs, adjectives, and adverbs. Non-content words (frequently called
"structure" words) are those that function to relate content words to one another. Structure words are traditionally identified as the following: personal pronouns, determiners, modals and auxiliaries, intensifiers, prepositions, conjunctions and subordinators (Wilkinson, 1971). Ure discovered that the oral texts in her corpus of texts had lexical densities of 23.9 to 43.2, while the written texts had a lexical density range of 35.8 to 56.8. Thus there were proportionately more content words, more explicit meaning carriers, in the written texts.

Ure found on closer examination of the texts that there were relatively few falling in the region of overlap between the two density ranges. Interestingly, examination of the high density spoken texts revealed that "in none of these texts was there any verbal response to the speaker, or any perceptible non-verbal response of a kind of make him adjust his language" (p. 448). All texts with a density of 36 percent or less had feedback. Furthermore, all but one of the texts in the 37 percent and above range were monologues. Ure suggests that the absence of feedback was a more powerful factor in determining lexical density than the dimension of medium. When the texts were classified by social function into language-in-action (i.e., immediate doing, consulting, describing, directions, discussions) or narratives (i.e., entertainment, information, exposition) it was discovered that narratives had a higher density, "and texts with the aim of imparting information, whether narrative or other types of exposition, have some of the highest densities of all" (p. 448).
Shift of Focus: Another important difference between speech and writing is offered by Cazden (1974) who suggested that when speaking or listening one's attention is focused on meaning or intention, with the language forms themselves transparent. Cazden suggests that operating with graphic language seems to require a shift in the focus of attention, a focus "on the means, the form of language, whereas in normal communicative contexts,...attention is focused only on the end" (p. 34). Focusing on the means renders what was transparent, opaque. The ability to perform this shift in attention is an aspect of what has been referred to as "metalinguistic awareness."

Realignment of Functions: Olson (1972) argues for two "quite different" uses of language that he identifies which correspond to typical oral and graphic varieties of language. In ordinary conversational language use "...language is completely transparent to the reality that lies behind it; one focuses on the world through language" whereas "in the second use of language the focus is on the propositions themselves and their relation to other propositions rather than to the reality specified by the sentences; this latter requires a divorce of language from reality" (p. 163).

Recently Olson (1977a, 1977b) has claimed that conversational utterance and prose text involve different alignments of the functions of language. He draws on Halliday's notions of ideational and interpersonal language functions. While all language use is recognized as serving both interpersonal and ideational functions simultaneously, Olson claims that the interpersonal function involving the maintenance
of social relationships between participants is primary in typical oral language. However in prose text, the ideational function involving logical relations within and between sentences assumes ascendancy.

Summary

Although progress has been made in recent years in recognizing and characterizing the differences between oral and written language, much remains yet to be specified. It appears that current notions about oral and written language differences converge on the ideas expressed early on by Vygotsky: typical uses of graphic language are represented by monologues not tied to situated meanings, with greater explicitness resulting from increased lexicalized meaning. To the extent learning the language of literacy—becoming a reader—involves learning how graphic language is structured and used, literate children can be expected to produce more verbally explicit texts than their pre-literate peers in contexts approximating the constraints associated with graphic language.

A System for Text Analysis

The work of linguists Michael Halliday and Ruqaiya Hasan relative to "cohesion" in English (1976) suggests a way to analyze samples of language for aspects of texture which may reveal a shift toward greater explicitness in language use. The study of texture via cohesion analysis allows one to look at the end result of an individual's language design process—the textual artifact—and to identify certain means by which structurally unrelated linguistic elements in a unified piece of language, a text, have been integrated. Winograd
(1977) referred to this integration in general terms as the "stringing together of words and utterances." The performance of this integration is seen as one aspect of a language user's knowledge of his language.

A characteristic of language in use is that what is spoken or written is not a collection of unrelated utterances but rather an integrated language piece, integrated within itself and with the context in which it occurs (Halliday & Hasan). There are relations between the individual "sentences" (or sentence-like units) which contribute to the integration of elements into a semantically unified whole. Halliday and Hasan have identified certain grammatical and lexical resources in English that contribute to making a text "hang together." Their categorization of these resources for text construction provides a basis for analyzing samples of language.

The concept of texture is central to the notion of text unity. Texture is at least partially achieved by cohesion (Halliday & Hasan, 1976):

Cohesion occurs where the INTERPRETATION of some element in the discourse is dependent on that of another. The one PRESUPPOSES the other, in the sense that it cannot be effectively decoded except by recourse to it. When this happens, a relation of cohesion is set up, and the two elements, the presupposing and the presupposed, are thereby at least potentially integrated into a text. (p. 4)

Each occurrence of a presupposing/presupposed pair of items constitutes a tie. Analyzing a text in terms of its ties across sentence boundaries accounts for patterns of texture beyond that of structural relations inhering in grammatical units (such as clauses, groups, etc.).
Halliday and Hasan (1976) identify five kinds of cohesive ties. They are REFERENCE, SUBSTITUTION, ELLIPSIS, CONJUNCTION, and LEXICAL COHESION. The examples that follow are drawn from actual texts produced by the children who participated in this study except where noted.

REFERENCE

REFERENCE in text includes those types of items which refer to other items on which they depend for their interpretation. REFERENCE is a semantic relation, "a relation between meanings of particular instances rather than between words or other items of linguistic form" (Halliday and Hasan, p. 304). Items involved in REFERENCE are of three general types: Personals, Demonstratives (including the definite article, the), and Comparatives. This subclassification is based on the type of reference involved.

Personals are the personal pronouns and their possessive forms: she, her, hers, he, him, his, it, its, they, etc.

Demonstratives, which represent a form of "verbal pointing," are represented by the following pronouns: this, these, that, those, here, there, now, then. The definite article the resembles the demonstratives and is included in this category in that the+noun indicates that the item in question is specific and identifiable.

Comparatives are those items, typically adjectives or adverbs, which "refer indirectly to some referent according to similarity, either in general or in respect of a particular property; including, as a special case of similarity, identity" (Hasan, 1968, p. 31).
Examples from a large number of candidate comparative reference items are: *same*, *similar*, *such*, *more*, *less*, *identical*, *equal*, *other*.

The following samples of text give examples of the three kinds of REFERENCE.

**Personal:**

[2.1] Once there was a mother and a little kid.

*They* was hungry.

(*they* is interpreted by reference to a *mother* and a *little kid*)

**Demonstrative:**

[2.2] And all the porridge was all over the street.

Then everyone was in the porridge and eating bowls, spoons, buckets of it. And they ate it almost all up. But there's still some *there*.

(*there* is interpreted by references to the *street*)

A second example of demonstrative REFERENCE illustrates reference to extended text rather than to a specific noun:

[2.3] And she tried to remember and remember and remember. And she said "Halt little pot, halt!" And *that* didn't work.

(*that* refers to saying [*the words*] "Halt little pot, halt!")
Comparative:

[2.4] She didn't remember the magic words. So she said "Little pot, please little pot, please will you stop?" It didn't stop. So she tried other words. (other is interpreted as different from the ones she said in the first instance: "Little pot, please...?")

All of the examples cited thus far represent the paradigm case of cohesion: the presupposed element of the tie is located in a sentence preceding the one in which the presupposing member of the tie occurs. The tie is anaphoric (backward pointing) and endophoric (confined to the text). There are two kinds of departures from this model case that can occur. In the first, a presupposed item may point forward to subsequent text, as in the following fabricated example:

[2.5] They ran through the forest. John and Sally were afraid of forest creatures. (they is interpreted by reference to the subsequent items, John and Sally)

This direction of reference is cataphoric (forward pointing) while still being confined to the text.

The second kind of departure from the paradigm case occurs when the presupposed item is not to be found in the text and identification is achieved, if at all, only by recourse to some aspect of the environment of the text. This instance constitutes an exophoric tie--or at least an attempt at a tie in the case of failure to identify the
intended referent. In instances when the presupposed element is not
to be found in the text, some aspect of the larger environment
("environment" interpreted broadly) replaces the text as the relevant
environment in which the relation of reference is established.

In all cases of exophora (i.e., pointing outside the text) the
text producer's intended meanings are mediated via the extralinguistic
situation. Hasan (in press) points out that this fact implies that
the "natural environment" for exophora is face-to-face interaction
where visual contact is present and where the channel of discourse is
speech. She notes that in certain contexts exophoric presupposition
is communicatively appropriate and sensible. For example, when a host
passes a plate of cookies to his guest and says, "Have some more",
and the guest replies, "Yes, thanks. They're delicious!" there is no
need to explicitly "name" the cookies. The identity signalled by
more and they is perfectly clear due to the cookies' physical presence
on the scene of action.

Another situation in which exophoric presupposition is appropriate
and sensible is when the participants in a discourse share some know-
ledge or experience that eliminates the possibility of ambiguity or
misunderstanding arising with the use of an exophoric REFERENCE device.
Thus when a wife asks her husband, who had earlier complained of losing
his house key, "Did you find the key, yet?" he will not be puzzled as
to the identity of the key in question. The same cannot be said of a
casual listener who happens to overhear the conversation. Shared
experience of the type common to families and other in-groups also
appears to be a natural environment for exophoric presupposition. Greater explicitness would be redundant and quite possibly result in a linguistically bizarre utterance.

Hasan's expanded discussion of exophora (in press) specifies the ways in which a presupposed exophoric item may reside in aspects of the larger environmental context. Identification of the presupposed exophoric may be found: in the actual physical situation in which the text is produced, in some culturally shared knowledge of text producer and recipient (including shared knowledge of the language), or in some knowledge available to the text producer but of limited or restricted availability to the population of potential recipients.

The following is an example of reference to some aspect of the physical situation:

[2.6] Oceans have sharks. Oceans have whales. Crabs are on the beach. I went to the beach a few weeks ago, and I played.

(the speaker, I, is identifiable in the actual physical situation in which the text was produced)

It should be noted that in quoted speech, such as the next example, the first-person pronoun I becomes endophoric:

[2.7] The little girl sat down on a log and began to cry. "I don't have any food," she said.

(I is interpreted by reference to the little girl)

In general, first and second person pronouns, referring to speech roles in the situation, are exophoric except as noted relative to example
[2.7]. The typical expectation for third-person pronouns is that they function endophorically.

An example of identification made on the basis of culturally shared knowledge is contained in the following passage, where a presupposition exists as to the specificity and identity of the referent:

[2.8] The little goose saw a cloud in the shape of a fox. She thought the fox was going to eat the moon.

(the moon is identifiable by reference to the only moon, at least for earthlings—including sentient geese, that exists; it is a unique member of a class and is categorized as "homophoric" reference)

An example of exophoric reference in which identification of the ultimate referent(s) is not possible on the basis of the fabricated text provided, is presented below:

[2.9] She took the pot and ran home. And they lived happily ever after.

(Who is she? What pot? And is there another character [presupposed in they] involved in this scenario? Unless the text's author can point to the person(s) and objects referred to—literally point as in the case of an available picture or figuratively point as in the case of a mutually shared experience of the events recounted—identification is not possible)
Hasan (in press) has characterized REFERENCE items as implicit linguistic devices: devices which involve semantic presupposition. That is, implicit devices do not contain within themselves their precise meanings. Such intended meanings must be retrieved from some extrinsic source. The extrinsic source for endophoric reference is another linguistic item within the text. However the extrinsic source for exophoric reference is outside the text. Hasan suggests a cline of implicitness based on the availability of the speaker's intended meanings. Endophoric presupposition (such as that involved in cataphoric and anaphoric reference) makes meanings available to anyone who has access to the discourse. However, exophoric presupposition makes meaning less available in terms of actual language realization; interpretation of meaning is dependent on aspects of the situation and therefore potentially more implicit.

Hasan further offers a grading of implicitness within exophora, again depending on the criterion of meaning availability. Thus if identification is mediated by culturally shared knowledge (including knowledge of the formal requirements of the language as in example [2.8] meanings are more available than if they depended on one's being present on the actual physical scene in which the text was produced (as in example [2.6] and the cookies example). The most implicit text forming strategy is exophoric presupposition that depends on mutually shared knowledge of a limited or restricted kind. Thus the presupposition involved in example [2.9] and in the lost key example is considered by Hasan to be the most implicit of all. Very specialized knowledge is
required to interpret the meanings apparently intended in the verbalizations in these examples. When REFERENCE items are involved in these most implicit situations they are categorized as restricted exophorics in that their intended meanings are limited or restricted to the smallest circle of potentially successful interpreters.

**SUBSTITUTION and ELLIPSIS**

SUBSTITUTION and ELLIPSIS are cohesive relations distinct from REFERENCE in that they involve relatedness of form, relations in wording rather than relations in meaning. However they, like REFERENCE, are considered implicit devices since the precise meanings they signal are available through what they semantically presuppose.

SUBSTITUTION involves the replacement of an item with a kind of linguistic "marker" or "counter" which stands for the removed item. ELLIPSIS is characterized as "substitution by zero"; the presupposing item is omitted altogether from the text although it is "understood."

Halliday and Hasan describe three subcategories of SUBSTITUTION and ELLIPSIS: Nominal, Verbal, and Clausal. A substitute item can stand for a noun phrase, a verb phrase, or for an entire clause. Similarly in ELLIPSIS the word or words omitted may be a noun phrase, a verb phrase, or a clause.

The list of items that can occur as substitutes is very limited:

**Nominal:** one, ones; same

**Verbal:** do

**Clausal:** so, not
The following is an example of Nominal SUBSTITUTION:

[2.10] Then she tried the pot. And she couldn't remember the words. She remembered the first words. But she couldn't remember the last ones.  
(ones substitutes for words)

The following example illustrates Verbal SUBSTITUTION:

[2.11] The little girl said, "Stop boiling pot, stop boiling!" And it did.  
(did substitutes for the verbal element stop[ed] boiling)

The following examples illustrate Nominal and Clausal ELLIPSIS, respectively:

[2.12] So every morning the little girl would go out and find nuts and berries. But one morning there wasn't any.  
(any nuts and berries is understood)

[2.13] And the lady with the magic pot said, "You want this pot, little girl?" And the little girl said, "Yes."  
(Yes [I want this pot is understood)

The source of presupposition in ELLIPSIS and SUBSTITUTION is usually the textual environment and therefore endophoric. Exophoric ELLIPSIS and SUBSTITUTION are infrequent but can occur. Thus the implicitness involved in the use of these two categories of linguistic
devices is, like that for REFERENCE, variable. The following two examples of exophoric presupposition involving SUBSTITUTION and ELLIPSIS produced by children in this study came—significantly—during the informal conversational exchanges between child and investigator prior to settling down to dictate and scribe a story. Setting up an audio-tape recorder was part of the routine.

[2.14] Child to investigator:

You got a big one, today.

(one exophorically presupposes the physically-present tape recorder; there was no difficulty in interpreting the substitute item in this context)

[2.15] Child to investigator:

It's got lots.

(lots of push buttons was understood; the child was touching the buttons on the tape recorder at the time)

CONJUNCTION

CONJUNCTION differs from the cohesive relations discussed thus far in that it is not "phoric" in the sense of pointing or reaching out to another item. Rather than a "search instruction," conjunctive elements embody specification of the way in which what is to follow is semantically connected to what has gone before. Halliday and Hasan describe four major subcategories of CONJUNCTION: Additive, Adversative, Causal, and Temporal. The categories along with some of the words which typically signal the different kinds of relations follow:
Additive: and, nor, or, thus, furthermore
Adversative: but, yet, however, even so, actually, anyhow
Causal: so, then, therefore, consequently, for, because, otherwise, in that case
Temporal: then, next, just then, at once, soon, next day, meanwhile

The following portion of a child's story retelling text displays examples of Additive, Causal, Adversative, and Temporal cohesion, respectively:

[2.16] Once upon a time there is a little girl and a mother. And they didn't have any food. So every morning the little girl would go out and find nuts and berries. But one morning there wasn't any. Then the little girl heard a creaked voice....

LEXICAL COHESION

LEXICAL COHESION is characterized by Halliday and Hasan as the cohesive effect achieved by selection of vocabulary. They identify two broad types of LEXICAL COHESION. The first, Reiteration, involves the repetition of a lexical item. The second, Collocation, involves the use of lexical items that "stand to each other in some recognizable lexicosemantic (word meaning) relation" (Halliday & Hasan, p. 285).

Reiteration can involve the repetition of a word in the form of its first occurrence, as in the following constructed example:

[2.17] 1) My dog is loud and messy.
2) That dog must be trained!
Reiteration can also involve repetition by using a synonym, superordinate, or general term. Thus dog in sentence (2) could be replaced by: canine or even bow-wow (synonyms); beast or animal (superordinates); or thing (general term). Repetition in its various forms frequently involves identity of reference, especially when accompanied by REFERENCE items like the and that. However the repetition of lexical items which do not depend on identity of reference, as in the next constructed example, are still seen as contributing to the internal cohesion of a text.

[2.18] My cat is so sweet and loveable.
   Your cat has redeeming qualities, too.
   Cats in general make better pets than dogs,
   don't you think?

The following example from a child's story retelling text illustrates how synonyms can share a common referent while the repetition of a linguistic item does not necessarily involve identity of reference.

[2.19] Once upon a time there was a little girl and
   her mother who lived in a cottage.

   And so the little girl took the pot and ran
   back to her house. (synonym: identity of reference
   with cottage)
One day the little girl was out at her friend's house... (repetition of house: no identity of reference with the earlier occurrence of "house")

Collocation is a blanket term for the cohesive force that results from the co-occurrence in a text of words that display word-meaning relationships. Word meaning relationships are displayed by synonyms and superordinate terms, of course; but they are also displayed by pairs of opposites, complementaries, and words from an ordered series such as days of the week. Also, cohesive force is exerted through meaning relationships between pairs of words that have a part-whole relationship (meronomy) such as door, window, ceiling, floor... (HOUSE); and words which are members of a more general class such as bread, nuts, berries, porridge... (co-hyponyms of FOOD).

There is the possibility of collocational cohesion between any pair of items that tend to appear in similar contexts, that tend to share the same lexical environment. For example the occurrence of lexical items such as witch...magic...black cape...magic pot.... magic words...magic spells...which appear across sentences in a text tends to contribute to text unity. The principle behind both reiteration and collocation, according to Halliday and Hasan, is "continuity of lexical meaning" (p. 320).

Summary

The descriptive framework for analyzing samples of language offered by Halliday and Hasan's categorization of the linguistic devices for integrating language with itself and with the environments
in which it occurs appears to have potential for describing the language children use as they make the transition to literacy. The categories suggested by Halliday and Hasan ought to be sensitive to differences in language use along an implicit/explicit dimension. If literacy learning entails learning uses of language characterized by greater explicitness, then there ought to be textual evidence of semantic options relative to text formation contributing to more explicit, disembedded language. Of particular interest in an analysis of patterns of texture between children at different points in the transition to literacy are differences in reliance on exophora in forming texts as well as in the relative use of Lexical Cohesion, the fully explicit text forming device.
CHAPTER III

PROCEDURES OF THE STUDY

The purpose of this study was to describe aspects of texture in children's oral narratives using the framework of cohesion analysis with the aim of discovering if differences relative to literacy development exist with respect to text forming strategies. The approach chosen to realize the goals of the study was a cross-sectional comparison between groups of children who were at different points in the transition to literacy at first-grade entry. For the purposes of this study, literacy is distinguished from earlier reading behavior by the ability to read passages of connected natural language text with fluency and understanding. Thus in this study "literate" young children were those who had progressed beyond isolated word and sentence reading to what McKenzie (1977) as well as several children involved in this study have called "reading for real." The comparison in this study involved children who were early readers, precocious in terms of normative reading onset time (by standards prevailing in the U.S.) and children who were expected to learn to read—but more typically, following some program of school-based instruction and at a later average age. It must be emphasized that the comparison was not made between "good" readers and "delayed" or "remedial" readers.

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This chapter details the procedures followed in the investigation. The first part of the chapter overviews the plan of the study; the second section describes the subject pool, with the third section describing the tasks of the study and the data collection procedures. Next is presented a discussion of how participants in the study were categorized as to literacy status, and the following section explicates the design of the study and describes the selection of the final subject sample. The concluding sections overview the preparation and coding of the language data and introduce the statistical analyses used.

Plan of the Study

The research plan for this study called for identifying a sample of young children who were making the transition to literacy, eliciting oral narrative texts under two task conditions, categorizing the children as to reading development stage and sex, coding the elicited texts in terms of the number and types of cohesive ties and exophoric presuppositional relations they displayed, and analyzing the subjects' coded responses in terms of the factors of reading level, sex, and type of text production task.

Subject Pool and Design Considerations

A comparative study attempts to describe differences among naturally existing populations as opposed to identifying differences among populations created artificially through experimental manipulation (Bock, 1975). A first step in this study involved designating 6-7 year old children just beginning first grade as the subjects of
interest to the study. Most children at school entry are not yet reading fluently, although they may be on their way to discovering how print is organized and used. However the investigator's teaching and research experience in kindergarten and first grade and the literature on early reading (Clark, 1976; Clay, 1972; Durkin, 1966; McKenzie, 1974) led to the expectation that enough fluent young readers could be found among first-grade entrants to distinguish populations of developing readers: fluent young readers and age-mates who could not yet read passages of connected discourse.

Social class (Adlam, 1977; Hawkins, 1977; Tough, 1977) and sex (Martin, 1977; Rentel, King & Pappas, 1979) have been implicated as subject characteristics associated with some of the options in text formation with which this study was concerned. While being cautious in accepting these factors per se as explanations for observed differences in language use, they were controlled in the design of this study. Because of practical limitations on the number of subjects that could reasonably be included in the investigation (the maximum number was set at 40), the centrality of the literacy factor (as opposed to the social class factor) to this study, and the investigator's regular access to a convenience sample of middle-class first graders, physical control was exercised over the social class factor by limiting this study to middle-class children. The sex factor was built into the design of the study. Measured intelligence was not controlled in this study. The available evidence suggests that for middle-class children, measures of intelligence have little influence
on the text forming strategies of interest in this investigation (Adlam; Hawkins).

Subjects for this study were drawn from the middle-class first-grade populations of two schools in the Columbus, Ohio area. The classrooms in which the subjects were housed were, at the time of this investigation (September-October, 1979), participating in a 20-month longitudinal study by researchers at the Ohio State University on the development of early writing which was begun the previous January (Note 1). This investigator was associated with the writing development project as a graduate research associate throughout the project's duration. The duties of research associate brought this investigator into the participating classrooms on a regular basis as a participant/observer, working with individuals and small groups of children and with the classroom teachers. Typical classroom activities for the researcher included (but were not limited to) sharing books with children, listening to children read or retell stories from trade books as well as from books of their own creation, serving as scribe for varied types of dictated composition by the children, and encouraging and supporting the writing children did on their own. Thus the investigator was well-known to the children participating in the study and importantly, the activities which provided the data for the study were a familiar and on-going part of classroom routine.

Both schools providing subjects for the study classify themselves as "informal alternative" schools. Their expressed commitment is to individualized teaching, and they do not use a basal reading scheme.
Their reading programs are literature and language-experience based. One of the schools serves a homogenous middle- to upper-middle class suburban neighborhood. The other school, in the central city, has a racially and economically mixed student population drawn from the immediate neighborhood as well as from more distant neighborhoods from which children were transported by bus. Students who participated in this study were volunteers who had obtained parental consent.

During the first weeks of the school year (September, 1979) the socioeconomic status of those children for whom parental permission forms were received was determined by scores on an Index of Status Characteristics instrument developed for use in the writing development project (King & Rentel, Note 2). This instrument rates parental occupation and source of income, house type, and dwelling area, and yields a numerical score ranging from 12 through 84 (see Appendix A for a copy of the instrument). Consonant with the criterion set in the writing development project, a score below 60 identified a middle-class subject. Thirty-eight children (19 males, 19 females) were so identified (27 from the suburban school; 11 from the city school). The Index of Status Characteristics scores of these 38 children ranged from 28 to 59, with a mean of 37.17 (standard deviation, 6.10).

These 38 children, all native speakers of English, formed the subject pool. The plan was to collect data from all of these children and to select as many texts for analysis as the constraints of the research design and selected method of statistical analysis allowed. In fact, one of the children did not complete both of the tasks of the
study and two children who had been recommended for special language testing were eliminated from the subject pool. Thus 35 was the maximum number of subjects available for the study. All of these children were expected by their teachers to make progress in literacy development in the school setting.

**Data Collection Procedures**

During the early school weeks subjects retold stories they had heard to the investigator or classroom assistants (volunteer parents and pre-service teachers in field placements). These story retellings were frequently audio-tape recorded to prepare the way for the recording to be done as part of the later data collection. All children were given the opportunity to dictate stories of their own composition, with the investigator serving as scribe. These narratives, too, were audio-taped. These activities were carried out both in the classrooms as well as in available vacant rooms in the schools. All children had story retelling and dictation experience while being recorded before the actual data collection for this study began.

The language samples which provided the texts for cohesion analysis were collected during the two-week period from October 3-17. Five fellow-members of the writing development project research team participated with this investigator in collecting the data. All researchers had been working in the classrooms in capacities similar to this investigator's and were known to the children in this study as visiting teachers. All research associates participated in developing scripts for the data collection to insure task uniformity and were trained in
data collection procedures (see Appendices B and C for copies of the scripts).

**Story Retelling Data**

Story retelling data were collected in one day at each school (on October 3 and 10). The story selected for reading/retelling was Paul Galdone's *The Magic Porridge Pot*, an illustrated version of a classic tale. Criteria for book selection were: quality of story and accompanying illustrations, probable interest to first graders, reasonable length for the retelling task, and a story unfamiliar to this group of children. Although *The Magic Porridge Pot* is a retold tale, none of the children indicated familiarity with this version of it during the reading or subsequent retelling.

One member of the research team served as story "reader" and the others served as "listeners" for the retellings. In groups of five, children were taken by the reader to a room in the school where the story could be read without interruption. The children were told that they would be read a new story that the reader had enjoyed and wanted to share with them. The reader also told the children that they would each have the opportunity to share the story with a visiting teacher when the reading was finished. The reader then read the story as it would typically be read in the classroom, providing enough time so that the pictures could be viewed. Upon completion of the story the reader went through the book a second time, showing each page in turn, not commenting but accepting any spontaneous comments about the story from the children. If at any time children indicated
concern about being able to remember everything in the story in retelling it to another, they were reassured that it was all right to retell what they could remember.

Following the reading each child was taken to a "listener" member of the research team who was introduced as a teacher who did not know the story that had just been read. The number of listeners matched the number of children in each story reading group so that no child was made to wait (i.e., the time and activity between the end of the reading session and the retelling was uniform for each child). In introducing the listener, the reader explained to each child that the visiting teacher did not know the story that had just been read and stated that the teacher would like to hear it. The reader then left the room; the listener reaffirmed the task, explaining that the retelling would be tape recorded for the purpose of sharing it with other teachers who were interested in stories. Once the child began his or her retelling the listener tried not to interrupt the child's narrative. The listener was attentive, but did not collaborate in the child's text production. The intent was to allow the child to construct his or her own text and to avoid additions by the listener to the content or structure of the narrative.

**Dictated Story Data**

Dictated stories were collected at the two schools during the two-week data collection period, exclusive of the two days devoted to story retelling. Expectations for telling original stories to members of the research team had been established prior to the data collection;
all children had previous experience in dictating stories to a researcher who acted as scribe while being tape recorded as an ongoing classroom activity. Prior to the data collection the classroom teachers, researchers, and children talked over plans for compiling a classroom storybook to contain the children's stories which were to be typed by the scribe and later illustrated by the children.

Dictation proved to be a fairly popular activity, with most children requesting a turn with the scribe. Generally the order of data collection followed a volunteer pattern, with the scribes working with children who indicated their readiness with a story. At the time of collection each child went with a scribe to an available room in the school where a tape recorder had been set up. Children were told that the story could be as long or as short as they wanted and that it could be about anything that interested them. In an attempt to avoid a retelling of a well-known story (e.g., The Three Little Pigs) the child was encouraged to tell "your own story" rather than one heard or read elsewhere. Before the dictation began the child was reminded that the scribe would be writing down all of the story. The dictation session was tape recorded, and the child was told that the purpose of the recording was to check on the accuracy of the scribe's copy before it was typed and placed in the classroom storybook. Once the child began dictating, the researcher attempted to keep up with the child's dictation pace, accepting any comments or instructions the child gave regarding the scribe's performance and/or the writing process, but was careful not to interrupt the child's narrative. In the few cases
when a child dictated an obvious retelling of a known story or a rhyme, the scribe elicited a second dictated text after encouraging the child to tell his or her own story.

Categorization of Reading Status

Children participating in this study were categorized as to reading status on the basis of standardized test results and classroom teacher evaluation.

The 1978 edition of the Metropolitan Achievement Test—Reading (Primer Level, K.5-1.4) was administered by this investigator during the period 18-23 October. The children were tested in small groups of 3-6 following the standardized procedures developed for the Metropolitan (hereafter referred to as the MAT). The testing was presented as another of the various reading and writing activities in which children and the investigator were participating. The small size of the groups allowed the investigator to observe the reading behavior of the children and facilitated the establishment of a relaxed atmosphere.

The new edition of the MAT was selected for use in this study because it is relatively quick and easy to administer; it reports a respectable reliability estimate, .85 by the K-R 20 formula (Prescott, Balow, Hogan & Farr, 1978); and it has a content and structure fitting the needs of the study. The MAT is a 37-item power test. The first twelve items involve word reading; the next ten items involve sentence reading; and the final fifteen items involve paragraph reading requiring the reading of connected text. The paragraph reading section is
composed of three passages of increasing difficulty followed by comprehension questions. For the purposes of this study, the criteria set for identification of a fluent reader were accuracy as indicated by at least 20 correct responses on the word and sentence reading subtests coupled with successful completion of at least the first set of questions from the comprehension subtest. The completed tests revealed that 10 of the 35 children (five boys and five girls) met the criteria for identification as fluent readers. Their scores on the passages ranged from nine to all 15 items correct (overall test raw scores for these fluent readers ranged from 30 to 37). These 10 children were the only ones in the subject pool to sustain attempts to read the passages after the example had been worked together.

Independent of the formal testing, classroom teachers were asked to identify, on the basis of their own observation and informal assessment, those children who were fluent readers and those who were beginning readers. General criteria were offered the teachers with the critical distinction between the groups to be the child’s ability to read connected discourse, passages of meaningful text such as encountered in children's trade books appropriate to this age group. As part of their normal classroom assessment procedures, teachers had been carefully observing their students since school began. All had been engaged in various reading and writing activities with the children, and all felt they knew the children well enough to categorize them as to reading status. Teacher classification revealed a three-way distinction. Identified were the following groups, along with the category labels developed to identify them:
1. Fluent Readers - Those children who could already read books independently

2. Transitional Readers - Those children who had considerable letter and word knowledge, could predict their way through sentence-length material, but who could not read passages of connected text

3. Beginning Readers - Those children who were still learning the directional constraints of graphic language, letter and word concepts, and who could recognize only a few words

Ten children—the same ten children who met the test criteria—were independently classified as fluent readers by the teachers. Fourteen children (seven boys and seven girls) were classified as transitional readers; and 11 children (five boys and six girls) were classified as beginning readers. Interestingly, the distribution of test scores followed the teachers' three-way classification. Test raw scores for the non-fluent readers ranged from 7 to 24. Score clustering suggested there were two different groups of non-fluent readers. The group labeled "transitional readers" all scored in the band marked by percentile points 42 and 80, with scores clustered in the middle of the range. The group labeled "beginning readers" all scored in the band marked by percentile points 2 and 34, with scores clustering toward the bottom of the range. Based on this pattern of distribution supported by the teachers' classifications the subject pool was trichotomized, recognizing two groups of non-fluent readers rather than one as originally planned.
Design of the Study and Subject Sample

The following factors were articulated in the design of this investigation:

1. Literacy development of subjects (Factor A)
   
   There are three categories of literacy development: fluent readers, transitional readers, and beginning readers. Literacy development is an assigned, fixed, and between-subjects factor.

2. Sex of subjects (Factor B)
   
   The two levels of sex represent an assigned, fixed, and between-subjects factor.

3. Text production tasks (Factor C, repeated measure)
   
   The two text production tasks--story retelling and story dictation to a scribe--represent a manipulated, fixed, and within-subjects factor.

4. Subjects (Factor S)
   
   As in the case of all designs incorporating a within-subjects factor, subjects were regarded as a random variable.

As noted earlier, data were collected from 35 children. However, design and analysis constraints resulted in a reduction of the sample size to 30. Classification of the 35 children by literacy and sex yielded groups of unequal size. Since the statistical program for data analysis available to the investigator has no direct method for dealing with unequal n's and therefore requires equal cell frequencies, the method of random discards (Kennedy, 1978) was employed to achieve
cell equality. Four transitional readers (two males, two females) and one female beginning reader were randomly eliminated from the subject pool (Note 3). Table 1 presents descriptive statistics on the subject variables of reading test score and age for the final sample of 30 children.

Two-way ANOVAs (group x sex) were performed on the reading test scores and subjects' ages. The analysis of variance on the reading scores indicated a significant difference only for the main effect of group, \( F(2, 24) = 215.92, p < .001 \). Post-hoc comparisons confirmed that the three literacy groups were different from each other with respect to their reading test scores. The analysis of variance on age indicated no significant differences for group, sex, or group by sex interaction.
### TABLE 1
**DESCRIPTIVE STATISTICS FOR FINAL SUBJECT SAMPLE**
**ON READING TEST SCORES AND AGE BY LITERACY AND SEX CLASSIFICATION**

<table>
<thead>
<tr>
<th>Group</th>
<th>Sex</th>
<th>Reading Test Scores</th>
<th>Age in Months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Means</td>
<td>SDs</td>
</tr>
<tr>
<td>Fluent Readers</td>
<td>Males&lt;sup&gt;a&lt;/sup&gt;</td>
<td>34.00</td>
<td>2.35</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>34.00</td>
<td>2.45</td>
</tr>
<tr>
<td></td>
<td>Over Group</td>
<td>34.00</td>
<td>2.26</td>
</tr>
<tr>
<td>Transitional Readers</td>
<td>Males</td>
<td>18.00</td>
<td>1.00</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>19.00</td>
<td>1.41</td>
</tr>
<tr>
<td></td>
<td>Over Group</td>
<td>18.50</td>
<td>1.27</td>
</tr>
<tr>
<td>Beginning Readers</td>
<td>Males</td>
<td>9.60</td>
<td>2.61</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>12.00</td>
<td>4.18</td>
</tr>
<tr>
<td></td>
<td>Over Group</td>
<td>10.80</td>
<td>3.52</td>
</tr>
<tr>
<td></td>
<td>Males Overall</td>
<td>20.53</td>
<td>10.66</td>
</tr>
<tr>
<td></td>
<td>Females Overall</td>
<td>21.67</td>
<td>9.88</td>
</tr>
</tbody>
</table>

<sup>a</sup>There are 5 children in each group by sex cross-classification for a total of 3x2x5=30 subjects.
Preparing and Coding the Language Samples

Transcriptions of the audio-taped oral narratives produced in the two tasks, story retelling and story dictation, provided the protocols that were analyzed for text cohesion and exophoric presupposition. Preparation of the protocols and coding proceeded in several stages.

In the first stage a complete transcription of each audio-taped data collection session was made. The stream of speech was initially segmented at the level of the orthographically realized word. Transcriptions were typed in traditional orthography, with capitalization of proper nouns and the first-person singular pronoun the only punctuation included in the typescripts. These original typescripts were unedited and included all verbalizations recorded during the sessions. Filled pauses, word and phrase repetitions, stutters, corrections and false starts were included, as were any verbal interactions between child and listener/scribe. Interjections by the adult were rare, but when they did occur interjections typically consisted of indications of continued interest such as "hm hm" or repetition of the child's most recent words following an extended pause. Unintelligible words or segments of text, which occurred very rarely, were noted in the following manner on the transcriptions: ( ... ) for what appeared to be a single word and ( ... ... ) for longer stretches of utterance. Lines of typed text were numbered sequentially and words spoken by the listener/scribe were identified with the letters: IN. An example of an original transcript appears in Appendix D.
Using both the prepared transcripts and the audio tapes, the investigator and a research associate edited the former in preparation for cohesion coding. First, each child's narrative text was abstracted from the total language recorded during the taping sessions. There was no difficulty in determining text boundaries; the two editors agreed in all cases. Context supported by the children's use of narrative conventions such as "once upon a time...." or "there was once...." and "they lived happily ever after" facilitated boundary decisions. Also of help in many language samples was a shift into a "story voice" distinct from the conversational language intonation preceding and following the narrative text. Marked for exclusion from the analysis were non-silent phenomena such as filled pauses, unmotivated repetitions, and abandoned forms. These non-silent phenomena correspond to what have been called "mazes" (Loban, 1963) or "garbles" (Hunt, 1964) in descriptions of child language. Editors also marked listener/scribe interjections and child asides (examples of the latter: "I wanted 'landed'"; "did I say 'pigs'?"; "you like writing, don't you?") for exclusion from the narrative texts. Examples of verbalizations excluded from the narrative texts are marked by brackets and asterisks in the samples of texts below; the first example is from the retelling corpus and the second is from the dictation corpus.

[3.1] once there was an old woman and her little
girl and they were really poor and they
only had [a little] a tiny loaf of bread
and then every day the little girl would go out [to find] to the woods to find some nuts and berries....

[3.2] ....[um] the witch [um] went to feed the hogs then [um] the witch went to feed the chickens then the horses* did I say pigs did I say pigs*
IN:**you said hogs**
*oh then pigs* [she went to feed] she went to feed the pigs....

Editing also involved identifying and marking the units upon which the subsequent cohesion analysis was to be based. While cohesion, Halliday and Hasan point out, is not limited to relations "above the sentence" the present study focused on the means whereby structurally unrelated units of language are linked together. Halliday and Hasan refer to this "intersentence cohesion" as "the variable aspect of cohesion" (1976, p. 9). The analysis of "non-structural" cohesion requires the identification of sentences or sentence-like units in the language to be analyzed. Linguists point out the difficulty of defining the "sentence" (Allerton, 1969; Crystal, 1976; Garvin, 1964). As Allerton notes, traditional definitions of the sentence are made in terms of the conventionalized written language, i.e., as a sequence of words lying between punctuation marks. Such traditional definitions were not useful for the oral language data of this study; therefore, an operational definition of a sentence-like
unit that could deal with spoken English was selected, the "T-unit." As defined by Hunt (1964), the T-unit is a clause complex consisting of one independent or main clause with any dependent or subordinate clauses attached to or embedded in it. This unit has been used in many studies of child language development in both speech and writing because of its efficacy and reliability, both important to the present study of cohesive relations holding between non-structurally related elements of children's oral narratives.

An additional editing procedure involved segmenting or parsing the texts into the T-units upon which the cohesion analysis was based. Also at this point selected symbols found to be helpful during cohesion analysis in interpreting text and making coding decisions were added to the transcripts. The full notational system used in editing the transcripts is presented in Figure 1, and an example of an edited original transcript appears in Appendix E. Following the editing procedure, transcripts were retyped, and a coded identification number replaced all other identification on the protocols.
# Used to mark the boundaries of each narrative text.

[    ] Used to mark non-silent phenomena (filled pauses, unmotivated repetitions, abandoned forms, etc.) and following Hunt, considered extraneous to the T-unit.

* ... * This mark identifies listener/scribe interjections or child asides not considered a part of the child's intended narrative text.

** ... ** Used to mark any responses to interjections or asides not considered a part of the narrative text.

/ Slashes mark T-unit boundaries and are numbered sequentially.

? ! Question and exclamation marks were added to the typescript when the child's intonation warranted it and proved helpful in subsequent cohesion analysis (no other terminal punctuation was marked).

"...." Quoted speech in the text for which a speaker is lexically identified.

((sp:name))"..." Quoted speech in the text which is not lexically attributed to a speaker but which can be attributed to a speaker based on context or the child's use of a role voice.

((sp:?)) "..." Quoted speech in the text which is ambiguous with respect to speaker.

(underlining) Underlining used to mark contrastive stress or other kinds of emphasis used by the child which could aid the cohesion coder in interpreting the text.

Figure 1: Notational System for Editing Oral Language Transcripts
Coding of the edited narrative texts followed the scheme set out in *Cohesion in English* (1976). The five categories identified by Halliday and Hasan which represent types of cohesion—REFERENCE, SUBSTITUTION, ELLIPSIS, CONJUNCTION, and LEXICAL COHESION—provided the framework for coding. All instances of exophoric as well as endophoric presupposition within these categories were coded. While not contributing directly to the integration of a text (i.e., "cohesion" as technically defined) exophora does contribute to the creation of text through linking language with features of the larger textual environment and as such bears on the question of interest in this study: what options do children use in creating their texts?

All coding was done by this investigator. A reliability check was run on a sample of 10 randomly selected texts (five representing each task). A research associate trained in cohesion analysis independently coded the 10 texts, and the correlation coefficient calculated for the two coders was .96 (SPSS Subprogram RELIABILITY).

As noted in Chapter Two, exophora is a type of phoricity which takes one outside the text. Exophoric items are presupposing textual elements whose intended more precise meanings are mediated through extralinguistic factors. While it is possible for the presupposition involved in REFERENCE, SUBSTITUTION, and ELLIPSIS to be exophoric, occurrences in the latter two categories are fairly infrequent (Halliday & Hasan) and only a single instance was noted in the narrative texts of this study, although there were several instances observed in verbal interaction between investigator and children.
occurring before the children began their narrative texts (see examples [2.14] and [2.15] in Chapter Two). Therefore, consideration of exophora in this study was limited to Reference items.

A system for sub-categorizing exophoric reference was adapted from Hasan's forthcoming work on semantic styles (Hasan, in press). The sub-categorization is based on the type of situational knowledge required for interpretation of the exophoric item. Using the criteria and terminology proposed by Hasan, the following sub-categories of exophoric reference were coded in the data of this study:

**Formal Exophorics** - those items which are only technically exophoric; one's knowledge of the language and a shared cultural context allow an adequate interpretation. Thus upon hearing or reading the utterance: "On her way home from school the reluctant scholar dropped her books in the street" one does not feel compelled to identify what street. Specific identification of the entity marked by the definite article is, in this instance, irrelevant. "Generalized" exophoric reference ("You [i.e., one] shouldn't feed the animals at the zoo"), "institutionalized" exophora ("Jim went to see the police"), and "homophora" (reference to a whole class or to a unique member of a class, such as the stars, the moon) were included in this category.

**Instantial Exophorics** - those items whose presuppositions are mediated via some elements in the immediate situation: reference is being made to some aspect of the here-and-now,
on-going situation. For example, if an author begins his
story with: "I went to Mars on a spaceship and had a great
adventure," full identification of the referent of the pro-
noun is situationally possible. Even if not present at
the text's creation, a partial identification of "author"
is possible and usually adequate. In the narrative texts
of this study, instantial exophorics were limited to first
and second person pronouns.

Restricted Exophorics - those items whose intended meanings go
completely beyond the immediate situation and are available
to the listener/reader only on the basis of shared knowledge
mediated by past experience. Thus in a story retelling that
begins: "They didn't have any food—just this little piece
of bread. She went out to look for nuts and berries,"
identification of they and she is not possible without re-
course to knowledge that goes beyond this retelling situation
and this text. (If the illustrated story on which the re-
telling is based were present during the retelling and the
pictures pointed to, then these exophorics would be con-
cidered instantial. The book with its illustrations was
not available to the child during the retelling task in
this study.)

The semantic constraints involved in telling a story to another
who claims not to know the story require that one talk in a way such
that one's meanings are available to the listener. The use of formal
and certain instantial exophorics (those representing speech roles in the situation) in the tasks of this study were seen as unambiguous in these contexts of narration. However the use of restricted exophorics relative to the characters and events in the stories was seen as ambiguous. In this study formal and instantial exophorics whose meanings were considered available to the listener were included for purposes of data analysis in the category of endophoric REFERENCE. Restricted exophorics formed a separate category for tabulating purposes. Thus frequencies within six categories of presuppositional "ties" were tabulated: REFERENCE, RESTRICTED EXOPHORIC REFERENCE, ELLIPSIS, SUBSTITUTION, CONJUNCTION, and LEXICAL COHESION. Appendix F contains an edited, retyped dictation text produced by a transitional reader in the study, along with a sample of the coding record for this text.

Analysis of the Data

Differential use relative to literacy status, sex, and task of the text forming devices represented by the categories coded in the data was addressed via a multivariate analysis of variance (MANOVA) technique (Jones, 1966). MANOVA was selected because it permits the testing of group differences in terms of multiple dependent variables considered simultaneously. MANOVA packages the dependent variables into a transformed composite variable, $Y$, which represents a linear combination of the response variables weighted to maximize a discriminant criterion. A significant MANOVA test statistic suggests rejection of the null hypothesis of no difference among group centroids.
If overall differences among groups are found, follow-up techniques allow the assessment of the relative contribution of each of the dependent variables to those differences.

Text length was free to vary in the narrative tasks of this study. To allow for differential text length, frequencies of ties within the six categories identified for coding were expressed as a proportion of total ties for each text. Following the coding it was observed that Reference, Conjunction, and Lexical Cohesion were used extensively by all children in the tasks, and Ellipsis and Restricted Exophoric Reference were used by 26 and 21 of the 30 children, respectively. Moreover, use of these latter two categories of linguistic devices involved more than one instance in the great majority of cases, although their relative frequency of use did not approach the magnitude found for Reference, Conjunction, and Lexical Cohesion. Substitution, however, as a text forming device was used by only eight children in the sample, and only two children of these eight had more than one instance of Substitution in their texts. Therefore this category was eliminated from the multivariate analysis of variance performed on the proportion scores of the remaining five categories. A separate univariate ANOVA was performed on the Substitution category, with the dependent variable being expressed as either presence or absence (1,0 coding) of Substitution in a given text.

Since proportion scores were to be used in the MANOVA, they were subjected to an arcsine transformation to conform to the assumptions of the multivariate normal distribution. The arcsine transformation
results in a variable that is normally distributed with a constant variance. Computer program CANOVA, a component analysis of variance package which performs multivariate analysis of variance (Clyde Computing Services, 1973) was used for the MANOVA analysis. The test of significance employed was Wilks' likelihood ratio criterion, transformed into Rao's approximate $F$.

The results of these analyses are presented in Chapter Four, following a description of the language samples produced in the study in terms of length and a measure of syntactic complexity.
CHAPTER IV
RESULTS AND DISCUSSION

It can be said that no two texts in the corpus of texts produced by the children in the tasks of this study were identical. While the major question of interest in the study involved the options children use in forming their texts, a description of the texts themselves relative to length and a measure of syntactic complexity provides a framework for looking at the language within which the text forming options of interest operate.

Length of the Texts

In this corpus, text length as measured by the number of "sentences" (i.e., T-units) ranged from five to 54 in Task 1 and from four to 44 in Task 2. Overall, the mean text length in the combined corpus was 23.67 (standard deviation, 13.14). Table 2 presents the means and standard deviations for text length according to literacy group, sex, and task classifications. Inspection of these data show that for all literacy groups, dictated texts were shorter than retelling texts (only one subgroup pair of means--those for the Male Beginning Readers--failed to follow this pattern, though the difference in the opposite direction was small, 13.60 in Retelling versus 15.40 in Dictation).

A two between-subjects (literacy level and sex) one within-subjects (task) analysis of variance was performed on the text length data. Table 3 presents the results of the ANOVA.
<table>
<thead>
<tr>
<th>GROUP</th>
<th>SEX</th>
<th>RETELLING</th>
<th>DICTATION</th>
<th>OVER TASKS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>Means</td>
<td>Means</td>
<td>(SDs)</td>
</tr>
<tr>
<td>Fluent Readers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>30.80</td>
<td>13.80</td>
<td>22.30</td>
<td>(11.43)</td>
</tr>
<tr>
<td>Females</td>
<td>42.20</td>
<td>15.60</td>
<td>28.90</td>
<td>(9.07)</td>
</tr>
<tr>
<td>Over Group</td>
<td>36.50</td>
<td>14.70</td>
<td>25.60</td>
<td>(11.43)</td>
</tr>
<tr>
<td>Transitional</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Readers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>25.40</td>
<td>19.20</td>
<td>22.30</td>
<td>(13.48)</td>
</tr>
<tr>
<td>Females</td>
<td>27.20</td>
<td>24.80</td>
<td>26.00</td>
<td>(6.98)</td>
</tr>
<tr>
<td>Over Group</td>
<td>26.30</td>
<td>22.00</td>
<td>24.15</td>
<td>(10.17)</td>
</tr>
<tr>
<td>Beginning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Readers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>13.60</td>
<td>15.40</td>
<td>14.50</td>
<td>(6.99)</td>
</tr>
<tr>
<td>Females</td>
<td>30.20</td>
<td>25.80</td>
<td>28.00</td>
<td>(7.89)</td>
</tr>
<tr>
<td>Over Group</td>
<td>21.90</td>
<td>20.60</td>
<td>21.25</td>
<td>(11.22)</td>
</tr>
<tr>
<td>Males Overall</td>
<td>23.27</td>
<td>16.13</td>
<td>19.70</td>
<td>(12.59)</td>
</tr>
<tr>
<td>Females Overall</td>
<td>33.20</td>
<td>22.07</td>
<td>27.63</td>
<td>(10.01)</td>
</tr>
<tr>
<td>All Subjects</td>
<td>28.23</td>
<td>19.10</td>
<td>23.67</td>
<td>(12.26)</td>
</tr>
</tbody>
</table>
TABLE 3
ANOVA ON TEXT LENGTH
BY LITERACY, SEX, AND TASK

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>F</th>
<th>p &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Subjects</td>
<td>29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literacy (A)</td>
<td>2</td>
<td>.55</td>
<td>.58</td>
</tr>
<tr>
<td>Sex (B)</td>
<td>1</td>
<td>5.30</td>
<td>.03</td>
</tr>
<tr>
<td>AxB</td>
<td>2</td>
<td>.71</td>
<td>.50</td>
</tr>
<tr>
<td>S/AB</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Subjects</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task (C)</td>
<td>1</td>
<td>16.12</td>
<td>.001</td>
</tr>
<tr>
<td>AxC</td>
<td>2</td>
<td>7.90</td>
<td>.002</td>
</tr>
<tr>
<td>BxC</td>
<td>1</td>
<td>.77</td>
<td>.39</td>
</tr>
<tr>
<td>AxBxC</td>
<td>2</td>
<td>.78</td>
<td>.47</td>
</tr>
<tr>
<td>SC/AB</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

These results indicate significant effects for the literacy by task interaction, and for the main effects for sex and task. Overall, the girls produced significantly longer texts in this study than did the boys (overall mean text length of 27.63 for the girls versus the boys' overall mean of 19.70). This result must be interpreted cautiously in light of the fact that there are research findings which suggest that the amount of language in production tasks may be related to the sex of the interviewer, with interviewers eliciting more language from same-sex interviewees (Botvin, 1977; Price & Graves, 1980). The fact that all the adult interviewers in this study were females may have contributed to this effect.
The literacy by task interaction is graphed in Figure 2. This disordinal interaction reveals that fluent readers produced the longest texts in the retelling task but the shortest texts in dictation. Tukey post-hoc comparisons of the literacy by task cell means reveal only one significant difference: fluent readers produced significantly shorter texts in dictation than in retelling. The main effect text length difference in the two tasks seems to be accounted for by the large difference between the tasks associated with the fluent readers.

In interpreting this result, a plausible explanation is that the fluent readers are also writers and, as such, are sensitive to the constraints imposed by the medium on a scribe who needs time and spends considerable effort in graphically rendering the language produced orally. Indeed, the audio tapes support the notion that fluent readers are sensitive to the scribe's needs as evidenced by an adjustment of dictation pace to the scribe's ability to get all the words written down. The tapes also reveal instances of "editorial" comment by these fluent readers offering spelling, punctuation, and even paragraphing advice to the scribe, all of which suggest that these readers are also writers. In addition to sensitivity to the constraints imposed by the medium which could possibly result in a more "considerate" (i.e., shorter) text, it is also possible that fluent readers may have dictated texts that were within the range of their own ability (and patience) to scribe for themselves.
Fluent Readers
Transitional Readers
Beginning Readers

Figure 2: Text Length By Task Interaction
Syntactic Complexity

The T-unit provided the operational definition of a "sentence" in the children's oral narrative texts in this study. The T-unit reflects syntactic complexity, and mean T-unit length (MTUL) is frequently used in studies of language development and is generally regarded as a measure of syntactic maturity. Mean T-unit length was calculated for each text in this corpus by dividing the number of words in the text by the number of T-units. Table 4 displays the means and standard deviations for MTUL in the texts of this study according to literacy, sex, and task.

A two between-subjects, one within-subjects analysis of variance was performed on the mean T-unit length data. As shown in Table 5, the ANOVA indicated only one significant effect, that for task: \( F(1,24) = 20.61, p < .0001. \)

Overall, the retelling texts are characterized by greater syntactic complexity as indexed by the T-unit criterion. This finding suggests that, at least for children of this age, mean T-unit length varies with context, even within the general mode of narration.

The finding of no significant differences for Literacy and for Sex suggests that to the extent that MTUL indexes syntactic maturity, the three groups of readers do not differ overall in their level of syntactic development, nor do the girls differ from the boys in this respect.
<table>
<thead>
<tr>
<th>GROUP</th>
<th>SEX</th>
<th>RETELLING</th>
<th>DICTATION</th>
<th>OVER TASKS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Means (SDs)</td>
<td>Means (SDs)</td>
<td>Means (SDs)</td>
</tr>
<tr>
<td>Fluent Readers</td>
<td>Males</td>
<td>8.93 (1.37)</td>
<td>7.33 (2.02)</td>
<td>8.13 (1.83)</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>8.97 (1.13)</td>
<td>7.61 (0.84)</td>
<td>8.29 (1.18)</td>
</tr>
<tr>
<td></td>
<td>Over Group</td>
<td>8.95 (1.19)</td>
<td>7.47 (1.47)</td>
<td>8.21 (1.50)</td>
</tr>
<tr>
<td>Transitional Readers</td>
<td>Males</td>
<td>8.70 (1.23)</td>
<td>7.59 (1.53)</td>
<td>8.14 (1.43)</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>10.40 (1.13)</td>
<td>7.69 (0.73)</td>
<td>9.04 (1.69)</td>
</tr>
<tr>
<td></td>
<td>Over Group</td>
<td>9.55 (1.43)</td>
<td>7.64 (1.13)</td>
<td>8.59 (1.59)</td>
</tr>
<tr>
<td>Beginning Readers</td>
<td>Males</td>
<td>8.24 (0.60)</td>
<td>7.71 (1.60)</td>
<td>7.97 (1.17)</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>8.86 (1.45)</td>
<td>8.01 (2.08)</td>
<td>8.43 (1.75)</td>
</tr>
<tr>
<td></td>
<td>Over Group</td>
<td>8.55 (1.10)</td>
<td>7.86 (1.75)</td>
<td>8.20 (1.47)</td>
</tr>
<tr>
<td></td>
<td>Males Overall</td>
<td>8.62 (1.08)</td>
<td>7.54 (1.61)</td>
<td>8.08 (1.45)</td>
</tr>
<tr>
<td></td>
<td>Females Overall</td>
<td>9.41 (1.37)</td>
<td>7.77 (1.27)</td>
<td>8.59 (1.54)</td>
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<tr>
<td></td>
<td>All Subjects</td>
<td>9.02 (1.27)</td>
<td>7.66 (1.43)</td>
<td>8.34 (1.51)</td>
</tr>
</tbody>
</table>
TABLE 5
ANOVA ON MEAN T-UNIT LENGTH
BY LITERACY, SEX AND TASK

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between Subjects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literacy (A)</td>
<td>2</td>
<td>.40</td>
<td>.67</td>
</tr>
<tr>
<td>Sex (B)</td>
<td>1</td>
<td>1.55</td>
<td>.22</td>
</tr>
<tr>
<td>AxB</td>
<td>2</td>
<td>.28</td>
<td>.76</td>
</tr>
<tr>
<td>S/AB</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Within Subjects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task (C)</td>
<td>1</td>
<td>20.61</td>
<td>.0001</td>
</tr>
<tr>
<td>AxC</td>
<td>2</td>
<td>1.42</td>
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<tr>
<td>BxC</td>
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<td>.88</td>
<td>.36</td>
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<td>.45</td>
</tr>
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<td>SC/AB</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Text Forming Strategies

Substitution

The use of Substitution as a text forming device was relatively infrequent in the texts of this study, although more instances were observed in the texts of the fluent readers than in those of the other two literacy groups. Table 6 presents the results of the ANOVA on this category. As is readily apparent, none of the F values are statistically significant. The use of Substitution as a text forming device is not significantly different statistically for the groups by literacy or by sex classification nor on the tasks of the study.
TABLE 6
ANOVA ON SUBSTITUTION CATEGORY
BY LITERACY, SEX, AND TASK

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>F</th>
<th>p &lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Between Subjects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literacy (C)</td>
<td>2</td>
<td>2.63</td>
<td>.09</td>
</tr>
<tr>
<td>Sex (B)</td>
<td>1</td>
<td>1.13</td>
<td>.29</td>
</tr>
<tr>
<td>AxB</td>
<td>2</td>
<td>.38</td>
<td>.69</td>
</tr>
<tr>
<td>S/AB</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Within Subjects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task (C)</td>
<td>1</td>
<td>.13</td>
<td>.73</td>
</tr>
<tr>
<td>AxC</td>
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<td>.13</td>
<td>.88</td>
</tr>
<tr>
<td>BxC</td>
<td>1</td>
<td>.13</td>
<td>.73</td>
</tr>
<tr>
<td>AxBxC</td>
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<td>.88</td>
<td>.43</td>
</tr>
<tr>
<td>SC/AB</td>
<td>24</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MANOVA on Five Text Forming Categories**

The arcsine transformed relative proportions for five of the text forming categories constitute the dependent variables in the MANOVA. Table 7 lists the categories used in this analysis.
TABLE 7

DEPENDENT VARIABLES FOR THE MANOVA

<table>
<thead>
<tr>
<th>VARIABLE NO.</th>
<th>TEXT FORMING CATEGORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reference</td>
</tr>
<tr>
<td>2</td>
<td>Restricted Exophoric Reference</td>
</tr>
<tr>
<td>3</td>
<td>Ellipsis</td>
</tr>
<tr>
<td>4</td>
<td>Conjunction</td>
</tr>
<tr>
<td>5</td>
<td>Lexical Cohesion</td>
</tr>
</tbody>
</table>

Transformed means on the dependent variables for the cross-classification of subjects by task are displayed in Table 8. Results of the MANOVA using Wilks' lambda (likelihood ratio) criterion expressed by Rao's $F$ transformation are shown in Table 9.
<table>
<thead>
<tr>
<th>LITERACY</th>
<th>SEX</th>
<th>TASK</th>
<th>Reference</th>
<th>R Exo Ref</th>
<th>Ellipsis</th>
<th>Conjunction</th>
<th>Lexical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluent</td>
<td>Males</td>
<td>1</td>
<td>0.3774</td>
<td>0.0144</td>
<td>0.0078</td>
<td>0.2152</td>
<td>0.4070</td>
</tr>
<tr>
<td></td>
<td>Readers</td>
<td>2</td>
<td>0.3999</td>
<td>0.0063</td>
<td>0.0097</td>
<td>0.1555</td>
<td>0.4534</td>
</tr>
<tr>
<td></td>
<td>Females</td>
<td>1</td>
<td>0.3459</td>
<td>0.0007</td>
<td>0.0077</td>
<td>0.2753</td>
<td>0.4291</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>0.3698</td>
<td>0.0000</td>
<td>0.0254</td>
<td>0.2542</td>
<td>0.3655</td>
</tr>
<tr>
<td>Group Overall</td>
<td>1</td>
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<td>0.0077</td>
<td>0.2452</td>
<td>0.4181</td>
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<tr>
<td></td>
<td></td>
<td>2</td>
<td>0.3849</td>
<td>0.0031</td>
<td>0.0176</td>
<td>0.2048</td>
<td>0.4094</td>
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<tr>
<td>Over Tasks</td>
<td></td>
<td>0.3733</td>
<td>0.0053</td>
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<td>0.2250</td>
<td>0.4137</td>
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<tr>
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<td>0.0079</td>
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</tr>
<tr>
<td></td>
<td>Readers</td>
<td>2</td>
<td>0.3314</td>
<td>0.0312</td>
<td>0.0371</td>
<td>0.2674</td>
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<tr>
<td></td>
<td>Females</td>
<td>1</td>
<td>0.3325</td>
<td>0.0291</td>
<td>0.0079</td>
<td>0.2334</td>
<td>0.4149</td>
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<td>2</td>
<td>0.4083</td>
<td>0.0015</td>
<td>0.0189</td>
<td>0.2463</td>
<td>0.3470</td>
</tr>
<tr>
<td>Group Overall</td>
<td>1</td>
<td>0.3425</td>
<td>0.0314</td>
<td>0.0079</td>
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<td>2</td>
<td>0.3699</td>
<td>0.0163</td>
<td>0.0280</td>
<td>0.2568</td>
<td>0.3507</td>
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<tr>
<td>Over Tasks</td>
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<td>0.0180</td>
<td>0.2474</td>
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<tr>
<td>Beginning</td>
<td>Males</td>
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<td>0.3469</td>
<td>0.1044</td>
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<tr>
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<td>0.1719</td>
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<td></td>
<td>Females</td>
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<td>0.0414</td>
<td>0.0055</td>
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<td></td>
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<tr>
<td>Group Overall</td>
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<td>0.0729</td>
<td>0.0068</td>
<td>0.2281</td>
<td>0.3537</td>
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<td></td>
<td>2</td>
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<td>0.1857</td>
<td>0.3468</td>
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<td>Over Tasks</td>
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<tr>
<td>Task Means</td>
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<td>0.0373</td>
<td>0.0075</td>
<td>0.2371</td>
<td>0.3903</td>
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<tr>
<td>Overall</td>
<td>2</td>
<td>0.4016</td>
<td>0.0135</td>
<td>0.0227</td>
<td>0.2158</td>
<td>0.3690</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 9

LITERACY BY SEX BY TASK MANOVA
ON FIVE TEXT FORMING CATEGORIES

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>dfHYP</th>
<th>dfERR</th>
<th>F</th>
<th>p &lt;</th>
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</thead>
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<tr>
<td><strong>Between Subjects</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Literacy</td>
<td>2</td>
<td>10</td>
<td>40</td>
<td>2.00</td>
<td>.05</td>
</tr>
<tr>
<td>(A)</td>
<td>4</td>
<td>20</td>
<td></td>
<td>.52</td>
<td>.72</td>
</tr>
<tr>
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<td>20</td>
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<td>.31</td>
</tr>
<tr>
<td>(B)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literacy x Sex</td>
<td>2</td>
<td>10</td>
<td>40</td>
<td>1.10</td>
<td>.39</td>
</tr>
<tr>
<td>(AxB)</td>
<td>4</td>
<td>20</td>
<td></td>
<td>.67</td>
<td>.62</td>
</tr>
<tr>
<td>S/AB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Within Subjects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task</td>
<td>1</td>
<td>5</td>
<td>20</td>
<td>3.26</td>
<td>.03</td>
</tr>
<tr>
<td>(C)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Literacy x Task</td>
<td>2</td>
<td>10</td>
<td>40</td>
<td>.94</td>
<td>.51</td>
</tr>
<tr>
<td>(AxC)</td>
<td>4</td>
<td>20</td>
<td></td>
<td>.67</td>
<td>.62</td>
</tr>
<tr>
<td>Sex x Task</td>
<td>1</td>
<td>5</td>
<td>20</td>
<td>.83</td>
<td>.54</td>
</tr>
<tr>
<td>(BxC)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Literacy x Sex x Task</td>
<td>2</td>
<td>10</td>
<td>40</td>
<td>.74</td>
<td>.69</td>
</tr>
<tr>
<td>(AxBxC)</td>
<td>4</td>
<td>20</td>
<td></td>
<td>.37</td>
<td>.82</td>
</tr>
<tr>
<td>SC/AB</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The \( F \) statistics from the MANOVA reveal none of the interaction effects to be significant. Also found non-significant is the main effect for Sex, \( F(5,20) = 1.28, p < .31 \). The girls and boys in this study do not appear to differ in their use of the five text forming categories entered into this analysis.

Table 9 does reveal significant differences for the main effects for Literacy: \( F(10,40) = 2.08, p < .05 \); and for Task: \( F(5,20) = 3.26, p < .03 \). It should be noted that after removal of effects associated with the leading root for Literacy, no significant discrimination remains. The finding of significant differences on the factors of Literacy and Task allows consideration of the nature of observed differences among the three literacy groups and between the two tasks and of the sources of the differences in terms of discriminant functions associated with each of the significant roots. The question becomes one of determining which of the original variables contribute most to the discriminant function as gauged by the relative magnitude of the weights which maximize the discriminant criterion in the linear combination associated with the transformed \( Y \) score for each significant factor (Tatsuoka, 1971).

**Literacy Factor Follow-Up:** To determine the nature of literacy group differences relative to the use of the text forming categories, a discriminant analysis follow-up was performed on the Literacy factor (SOUPAC DISCRIMINANT Program). The analysis yielded: 1) standardized discriminant weights (standardizing the discriminant weights transforms
them into comparable units permitting them to be interpreted directly regardless of their disparate variances, Jones 1966); and, 2) structure coefficients for each of the dependent variables. Structure coefficients represent correlations between the discriminant scores and the original variables. Standardized discriminant weights represent the unique contribution of each of the variables to the function and, as such, are partials. In the event that two variables are highly correlated, standardized discriminant weights will be suppressed which can lead to erroneous conclusions relative to the importance of a given variable to the discriminant function. Therefore structure coefficients are recommended over discriminant weights in interpreting the relative contributions of the variables to the function (Kennedy, Note 4).

The discriminant weights and structure coefficients along with results of the univariate ANOVA significance tests on each of the text forming categories are presented in Table 10.
<table>
<thead>
<tr>
<th>Use of Text Forming Category</th>
<th>Standardized Discriminant Analysis Weights</th>
<th>Structure Coefficients</th>
<th>Univariate $F$ Tests $(2,24)$</th>
<th>$p &lt;$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Reference</td>
<td>.546</td>
<td>.404</td>
<td>1.99</td>
<td>.15</td>
<td>.058</td>
</tr>
<tr>
<td>2 Restricted Exophoric Reference</td>
<td>.874</td>
<td>.700</td>
<td>3.56</td>
<td>.04</td>
<td>.125</td>
</tr>
<tr>
<td>3 Ellipsis</td>
<td>.192</td>
<td>.021</td>
<td>.35</td>
<td>.70</td>
<td>.009</td>
</tr>
<tr>
<td>4 Conjunction</td>
<td>-.318</td>
<td>-.310</td>
<td>1.42</td>
<td>.26</td>
<td>.050</td>
</tr>
<tr>
<td>5 Lexical Cohesion</td>
<td>-.253</td>
<td>-.603</td>
<td>3.70</td>
<td>.04</td>
<td>.105</td>
</tr>
</tbody>
</table>
Taken together these follow-up techniques indicate that the best discriminators for literacy group differences are first, the use of Restricted Exophoric Reference and second, the use of Lexical Cohesion. The mean differences (see Table 8) show that the use of Restricted Exophoric Reference—the most implicit of the text forming devices coded in these data—is highest for the beginning readers ($\bar{x} = .0469$), decreases for the transitional readers ($\bar{x} = .0239$), and decreases further for the fluent readers ($\bar{x} = .0053$). The pattern for the Lexical Cohesion variable—the most explicit of the text forming devices—is reversed although the rank ordering remains the same. The beginning readers show the least use of this category ($\bar{x} = .3503$); use of Lexical Cohesion increases for the transitional readers ($\bar{x} = .3749$) and increases further for the fluent readers ($\bar{x} = .4137$).

From a multivariate perspective, plotting the group means on a linear representation of the discriminant function reveals separation among the groups in the following order: fluent readers ($\bar{x} = .402$), followed by transitional readers ($\bar{x} = .713$), who were in turn followed by the beginning readers ($\bar{x} = 1.69$). The sharpest discrimination is between fluent and beginning readers, with scores in the transitional reader group falling between these groups but, according to the means on the discriminant function, apparently more like those of the fluent than the beginning readers.

**Discussion:** Simultaneously considering mean differences, structure coefficients, and significance tests, several general conclusions may be entertained. The pattern of decrease in the relative use of
Restricted Exophoric Reference with literacy development seems to mark a shift away from contextual dependency toward more autonomous text; meanings are increasingly made available within the text. The decrease in exophoric presupposition marks a decreased reliance, with literacy development, on extra-textual knowledge for the identification of characters, objects, and events in these narrative texts. While some instances of Restricted Exophoric Reference were found in the texts produced by fluent readers, these children as a group appear to demonstrate the best control (followed by the transitional reader group) over textually introducing the characters, objects, and events in their stories so that even a naive listener/reader can identify them.

While the relative frequency of exophoric presupposition may represent only a small proportion of the total text forming options realized in a given text (recalling that the mean for the beginning reader group was under 5%), even a few instances of exophoric presupposition can have serious consequences in terms of the success with which information is conveyed in a narrative. Comparison of the retelling texts contained in Appendix D (produced by a beginning reader) and Appendix E (produced by a fluent reader) illustrates this point. The beginning reader starts her story:

[4.1] The mom wanted the girl to come for something to eat. And she didn't have anything to eat. And the girl couldn't find any. And she waited....
The naive listener/reader is left to wonder about the identity of the mom and the little girl, the referent of she in the second sentence, and what it was that the girl couldn't find. It is as though this child were telling the story with the pictures available for reference to support the phoricity operating in the linguistic items she has used.

In contrast is the text of the fluent reader who introduces the characters before making definite reference to them and, through skillful use of the third person pronoun, avoids ambiguity in this story with three female characters. The result is a story that can stand alone, one whose pattern of language use appears to have expanded to meet the functional demands of this contextual configuration—telling a story to someone who doesn't already know the story.

The greater relative use of Lexical Cohesion that is associated with literacy development would also tend to result in a more explicit text. Keeping in mind that the creation of text requires the operation of both explicit and implicit means (Hasan, in press), we may perhaps best regard the explicit/implicit dimension of language as a cline upon which linguistic options serve to shift a given language piece toward greater explicitness or greater implicitness. For example, when faced with the choice of a personal pronoun or the repetition of a character's name, there may be a bias with literacy learning toward selecting the latter option. Recalling Vygotsky's observations relative to differences between spoken and written varieties of language to the effect that in written language one must use many more words and "use
them more exactly" as well as Ure's finding of greater lexical density in written texts (both cited in Chapter Two), we may speculate that this shift toward greater use of Lexical Cohesion as a text forming strategy may be reflecting an underlying distinction that literate children have acquired about how language is structured in contexts approximating the constraints of typical graphic language.

To illustrate, the fluent reader's retelling text in Appendix E has several instances that suggest choice points resulting in options leading to greater explicitness as marked by the use of lexical reiteration. Following the introduction of an old woman and her little girl into the narrative (lines 1-3), the storyteller continues:

[4.2] And then every day the little girl would go out to the woods to find some nuts and berries. And one time the little girl went out. And she didn't find any nuts or berries.

Further on in the same text (lines 11-13):

[4.3] And then she said that it was a magic pot. And then the old woman gave it to the little girl. Then the little girl ran home with it as fast as she could.

In contrast, the retelling text produced by the beginning reader suggests less of a tendency to select reiteration, an explicit strategy, over the use of a reference device, an implicit means of creating texture.

Taken together, these differences in the relative use of Restricted Exophoric Reference and Lexical Cohesion which discriminate
among the groups of children categorized as to literacy status appear
to point toward a use of language characterized by greater explicit-
ness, as children make the transition from an early reading stage to
reading fluency. Within the context of this specific environment of
language use--narrative text production--the evidence suggests that
literacy learning is associated with increasing ability to disembend
language from the constraints of the immediate environment and to more
effectively use language in "abstract and indirect contexts of situatings"
(Halliday, 1978, p. 29), an ability which Halliday suggests is
what distinguishes the language of adults from that of children.

Task Factor Follow-Up: In addition to the significant multivariate
test statistic for Literacy, the MANOVA on the use of text forming
categories produced a significant Wilks' lambda criterion for Task,
Rao's transformed $F(5,20) = 3.26, p < .03$. To determine the nature
and source of task differences relative to the texts children produced
in this study, a discriminant analysis follow-up was performed on this
factor (SOUPAC DISCRIMINANT Program), which yielded standardized
discriminant weights and structure coefficients for each of the
dependent variables. These weights along with results of the univariate
ANOVAs are presented in Table 11.
<table>
<thead>
<tr>
<th>Use of Text Forming Category</th>
<th>Standardized Discriminant Analysis Weights</th>
<th>Structure Coefficients</th>
<th>Univariate F Tests (1,24)</th>
<th>p &lt;</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
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<td>5.74</td>
<td>.02</td>
<td>.061</td>
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<td>.02</td>
<td>.111</td>
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<td>4 Conjunction</td>
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<td>.021</td>
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<tr>
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<td>-.594</td>
<td>-.256</td>
<td>.98</td>
<td>.33</td>
<td>.017</td>
</tr>
</tbody>
</table>
The structure coefficients and the results of the ANOVAs indicate the texts produced in the two tasks differ primarily with respect to the use of Ellipsis, Reference, and Restricted Exophoric Reference. In particular it appears that use of Ellipsis is the best discriminator between the tasks, followed in turn by the use of Reference and then Restricted Exophoric Reference.

The task means (see Table 8) show that children in this study relied to a greater extent on Ellipsis and Reference in the dictation task than in the retelling task. The use of Restricted Exophoric Reference, however, was greater in the retelling task. While the means for both Conjunction and Lexical Cohesion in retelling exceed those in dictation, the differences are not significant in terms of the univariate tests and, according to the structure coefficients, contribute little to the discrimination between the tasks.

Discussion: The relatively greater use of Ellipsis and Reference in the dictation task may be seen to result from the types of narratives the children in this study tended to produce when asked to make up their own stories. The dictated stories as a group contain a good bit of dialogue between a small set of characters; and this dialogue frequently involved question and answer sequences characterized by ellipsed elements in the response portion of the sequence. The following text excerpt from the dictation corpus illustrates this phenomenon:

[4.4] And so the boy asks, "Are you a scary monster?"

And the monster said, "No." (understood: I am not a scary monster)
And so he says, "Will you play with me?"

The monster says, "Of course." (understood: I will play with you)

The retelling texts on the other hand, while they do contain direct speech, do not typically involve the characters in interactive dialogue. This latter context which frequently involves question and answer sequences, seems to provide a natural environment for Ellipsis to occur. The portion of a retelling text which follows contains direct speech, but it is speech more in the nature of dramatic monologue than interactive language:

[4.5] And then a witch came by. She said, "Do not cry. This magic pot will make you famous. It'll just give you lot and lot of porridge. These are the magic words. You just set it on the fire and say 'boil little pot boil.' And you'll have lot of porridge. And when it's finished just say 'stop little pot stop.' And don't forget the magic words!" And then she gave it to her. And then....

Relative to the use of Ellipsis in dictation it should be recalled that the mean T-unit length was shorter in the dictation texts than in the retelling texts. The use of Ellipsis would have the effect of shortening MTUL in the dictation corpus, especially with the clausal ellipsis involved in question and answer sequences expressing polarity (as in example [4.4]).

In regard to the relatively greater use of Reference in the dictation task, as was mentioned there was a tendency for the dictated
stories to involve a small set of characters—fewer than were involved in the story used for the retelling task), frequently in a single episode. In this type of story, once a character is introduced, a pronominal reference item can serve to identify the character throughout the story; there is little or no chance of ambiguity arising from the use of a pronoun in a story with a limited cast of characters. Even in a long story, only occasional reiteration of the character's name seemed to be required to keep a listener/reader "on course." In contrast, the retellings, which involved three major female characters, seemed to reduce the opportunities for using the personal pronoun (without ambiguity) and bias the production toward repetition of the character's name.

The third variable which, according to the analysis, contributed to the discrimination between the tasks was the use of Restricted Exophoric Reference, which was greater in the retelling task than in dictation. There are several possibilities which might account for this difference. A first possibility involves a biasing effect caused by the retelling following almost immediately upon the original reading of the story. The illustrations accompanying the story could have been so "fresh" (and available as a mnemonic) for the children that they were predisposed toward the use of phoric items whose referents were available in the pictures so recently seen. A second possibility for the greater use of restricted exophora in retelling is that the addition of a memory component to the language production task—an additional demand as it were, caused a decrement in performance evidenced by the
failure to textually provide the information necessary for identification of the entity signalled by the phoric item. Another possibility is that when children are the source of the content of the story as well as in charge of the problem of how to structure that story linguistically into a text, they are in better control of the language they use, which may in turn relate to the general question of intention and performance. Perhaps when the story results from the children's intentions to create and tell their own stories, they are in a better position to demonstrate their linguistic competence, in this case producing a text more "appropriate" to the demand characteristics of the linguistic event.

**Summary**

Chapter Four has presented the results of the analyses of data and a discussion of the results. Following a description of the texts examined in this study in terms of their length and a measure of syntactic complexity, the results of the analyses of the text forming strategies of children classified according to literacy status and sex across the two narrative contexts were presented. Chapter Five will present a summary of the procedures and findings of the study and questions and recommendations for further research.
CHAPTER V
SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

It was the major purpose of this study to explore possible differences in the text forming strategies among groups of 6/7 year-old children who differed with respect to literacy development. The analysis of selected aspects of texture was seen as providing a window for observing the continuing process of language development into literacy. An assumption underlying the study was that differential use of text forming strategies reflect distinctions children acquire about the structure and functioning of language in contexts approximating those associated with typical graphic language. The major questions asked of the data were: given texts produced in similar contexts by children at different points in the transition to literacy, in what ways do they differ in terms of the selected aspects of texture identified, and along what dimension or dimensions do the groups differ most markedly. Also examined were possible sex differences as well as differences between the two narrative contexts in which the texts were produced. A summary of procedures and findings, implications, and questions and recommendations for further research follow.

Summary of Procedures

During the early weeks of school middle-class, first-grade children were asked to 1) retell a story that had been read to them, and 2) dictate an original story to an adult scribe. These narratives
were audio-tape recorded and later transcribed. Transcriptions of the
narratives in these two contexts provided the protocols that were
analyzed for features of cohesion and exophoric presupposition following
the text analysis framework suggested by the work of Halliday and
Hasan (1976) and Hasan (in press).

These 6/7 year-old children from two schools were categorized as
to literacy status on the basis of standardized test results and
teacher evaluation. Three groups of developing readers were identified:
fluent readers, transitional readers, and beginning readers. The
fluent readers were distinguished from the other two groups by their
ability to read with understanding passages of connected text.

Thirty children formed the subject sample. There were 10 children
in each of the literacy group classifications, with equal numbers of
boys and girls within each group. Level of literacy development, sex,
and narrative context (story retelling and story dictation) were the
factors articulated in the design of the study. Dependent variables
in the text forming analysis were indexed by the relative frequency of
ties in each of six categories: Reference, Restricted Exophoric
Reference, Ellipsis, Substitution, Conjunction, and Lexical Cohesion.

Following arcsine transformation, proportions for five of the
categories--Reference, Restricted Exophoric Reference, Ellipsis,
Conjunction, and Lexical Cohesion--were entered into a multivariate
analysis of variance (MANOVA). The sixth category, Substitution, was
examined in a separate univariate ANOVA. Subsequent to finding signifi-
cant overall differences in the MANOVA for literacy groups, a
discriminant analysis follow-up was performed for the purpose of identifying the source(s) of the differences which discriminated among the groups of children classified according to literacy development. The MANOVA also revealed significant differences between the two narrative contexts. To determine the source(s) of these differences a discriminant analysis follow-up was also performed on the task factor.

The language samples produced by the children participating in this study were also examined in terms of the variables of text length and syntactic complexity.

Summary of Findings

Examination and statistical comparisons of the texts produced in this study revealed that the girls, overall, produced more language across the tasks than did the boys. This finding is consistent with prevailing popular opinion that girls are more facile or fluent in language tasks than are boys. However, findings from two recent studies which looked at sex differences in the amount of language used in oral production tasks suggests caution in interpreting this result as a straightforward difference attributable to subject characteristics.

Price and Graves (1980) studied eighth-grade children's oral and written language and one of their findings was that the boys in their study produced more words in an oral language task than did the girls. Noting that a male interviewer elicited the oral language data they analyzed, Price and Graves suggested that there might exist an interaction effect between the sex of the interviewer and the sex of the
subject. Botvin (1977), in a study of storytelling by children ranging in age from 3 through 12 years, found "...verbosity [i.e., number of words] was maximized when the experimenter was the same sex as the storyteller" (p. 104).

The extent to which the observed differences favoring the girls relative to the amount of language produced in the present study can be attributed simply to the sex of the subjects is uncertain. The fact that all the interviewers in this present study were females may have contributed to the obtained results. As Botvin speculated, experimenters may be more responsive to children of their own sex or, conversely, children may feel somewhat inhibited or "...otherwise constrained when telling a story to a storytaker of the opposite sex" (p. 138). In light of the above findings, generalizations about language ability, as indexed by a fluency measure such as the amount of language produced, may be unwarranted when based solely on the sex of the subjects.

The text length analysis also revealed that the fluent readers in this study, while producing the longest texts (measured in number of T-units) in the retelling task, produced the shortest texts in dictation. The difference between the tasks for the fluent readers was large and statistically significant. Small differences between the tasks for the transitional and beginning readers were not significant. The source of this difference in performance between the fluent readers and the other two groups was tentatively attributed to awareness in the literate children of the constraints imposed by the medium of writing. It may
also be that the literate children, being independent readers, have had
greater exposure to stories and thus greater opportunity to learn how
stories are structured in terms of event sequences. They may have
better-developed schemata for stories which serve as guides for pro-
ducing less rambling, more tightly-organized (i.e., shorter) stories.

In terms of mean T-unit length (MTUL) in the children's narrative
texts, an analysis of these data revealed no differences in MTUL among
the groups of children cross-classified as to literacy and sex. To
the extent that MTUL indexes syntactic maturity, the three groups of
readers do not differ with respect to this aspect of language develop-
ment; nor do the girls differ from the boys. This is an interesting
finding in that the differences that are revealed in the text forming
analyses may be interpreted as arising from development along a more
specifically semantic axis and not simply as an artifact of more
pervasive or ubiquitous differences in language capabilities.

There were differences in MTUL revealed by the analysis between
the two narrative contexts. The retelling texts were characterized by
greater MTUL. This result is at least partially explained by the fact,
revealed in the task factor discriminant analysis follow-up, that chil-
dren relied to a greater extent on Ellipsis in creating their own
stories than in retelling the story that had been read to them. In
fact the relative use of Ellipsis as a text forming device was the best
discriminator between the tasks of the study.
Narrative Context and Text Formation

In addition to the use of Ellipsis, text forming differences between the two narrative contexts were found to be attributable to the relatively greater use of Reference in dictation and the overall greater reliance on exophoric presupposition (Restricted Exophoric Reference) in the retelling task. Differences in the use of both Ellipsis and Reference were seen to result from the types of stories these children tended to offer when asked to produce their own stories. Stories with a small cast of characters who frequently engage in interactive dialogue characterized by question/response sequences provide a hospitable environment for both Ellipsis and Reference to occur.

Relative to the increased reliance on exophoric presupposition in the retelling task where content was made available to children which they had to structure into a text, one of the interpretations offered for this finding was that children demonstrate better control in responding to the task demands (specifically the requirement in these tasks for textually available, unambiguous referents) when they are in command of both the content and structuring of their stories. In other words, performance in this regard was enhanced when the language as well as the intention was more wholly the child's.

(Caution, however, must be exercised in generalizing these task differences to all retelling contexts. Since only one stimulus story was read to the children, the extent to which the observed differences in this study were unique to the story used in the retelling task cannot be determined.)
The differences in children's performance on similar language tasks, both involving narrative text production, would seem to have implications for evaluation of children's language in the classroom. Teachers must be aware of the potential impact of both context and content in language events, a point made by the recent work of Black (1977) demonstrating that measures of "communicative competence" varied with both content and context. Those findings and the results of this study suggest the need for appreciation of the potency of these variables as environmental determiners of text. Therefore if assessment of children's ability to use language in narrative contexts is at issue, it is important to garner evidence of communicative competence across a range of narrative contexts. As the results of the present study indicate, a limited picture of children's abilities could result if performance in only one of the tasks is considered. Evidence relative to performance in a single context may overestimate or underestimate what children can do.

**Literacy and Text Formation**

The finding of greatest interest to this study involved detection of differences among the three groups of developing readers in terms of the text forming options they elected in their narrative productions. The greatest discrimination on the package of text forming variables considered in this study was between the fluent and beginning readers, with the transitional readers falling between the extreme groups. Group means on the discriminant function suggest that text forming
responses of the transitional readers were somewhat closer to those of the fluent readers than the beginning readers.

In this study the assumption was made that becoming a reader entails learning how language is organized and used in "disembodied" contexts, in contexts where language itself must bear the burden of communicating meanings rather than being ancillary to and supported by on-going action. Language development in its extension to literacy is seen to involve language use "prised out of" or disembodied from the matrix of language-in-action in which it is initially learned. The analysis revealed that the variables on which the literacy groups differed most were the relative uses of Restricted Exophoric Reference and Lexical Cohesion. In these data there was a regular decrease, with literacy development, in the use of exophoric presupposition coupled with a regular increase across the groups in the use of Lexical Cohesion. This pattern suggests a shift, with literacy, to greater explicitness; and it is suggested that this shift marks the growing ability to more appropriately use language in indirect and abstract contexts of situation.

Implications of the Study

This study provides empirical support for a dimension along which language development proceeds in association with literacy development. Analysis of texture appears to be sensitive to degrees of explicitness in language use, and groups of developing readers appear to differ along this dimension. This finding offers a clue as to the nature of the model of language children acquire as a result of using language in indirect contexts of situation.
A model of language characterized by greater explicitness in
verbalization may represent a form of linguistic awareness or tacit
linguistic knowledge which develops with literacy learning. Literacy
acquisition insures access to the abstract "rules" of visible language
organization and functioning. Just as children in initial language
development are seen as abstracting rules for language organization,
the literacy-learning child, encountering language organized for visual
presentation may be seen as abstracting rules for language organized
to function in disembedded contexts.

To what extent differences in text forming strategies which this
study has found are a consequence of literacy or its cause cannot be
determined here. A comparative study cannot support such inferences.
Longitudinal studies tracking the relationship between learning and
development within individuals might give a clearer picture of the re-
lationship between the emergence of specific text forming behaviors
and control over graphic varieties of language. However, a simple
cause and effect relationship may not be the best way to approach the
question nor to view learning and development. Language learning
represents complex human behavior and in all liklihood is characterized
by the dynamic interaction between development and learning (Vygotsky,
1978).

Rather than thinking in terms of simple relationships which
probably do not capture reality and suggesting either 1) that we teach
literacy so that children will be better able to use language in
supposedly more "mature" ways, or 2) that we try to develop "prerequisite"
linguistic skills so that literacy learning falls into place, we might better expend effort toward nurturing language development in school situations along the principles it seems to follow in original language learning. For example, the literature suggests that language develops out of a need to communicate within the socializing contexts in which humans find themselves. Context shapes language and determines text. As contexts change and present new demands, language expands to meet these new demands as long as the activity makes some sense to the individual (Halliday, 1978). The potential exists within humans and within the linguistic system to respond to contextual changes. If we accept this view that form follows function, then the implication for education is clear. We cannot expect children to master the forms of language independent of the contexts in which they typically occur nor in tasks that make no sense to the child. Our focus as educators then ought to be on identifying uses of language which represent graphic language constraints and serve an authentic purpose in children's lives and capitalizing on these uses of language in the classroom.

An assumption in this investigation was that active involvement with graphic language, which being a reader implies, is crucial for the development of a model of how language functions and is structured in indirect contexts such as are characteristics of graphic language uses. A realistic question for educational practice in terms of curriculum is how to promote active involvement with such language before children become independent readers. Usually we think of exposure to
the language of literacy through being read to as providing an optimum data base from which children can abstract the invariances of language functioning in disembedded contexts. However exposure alone may not be enough; it may represent a necessary but not sufficient condition for the development of literacy. Perhaps experiences in using language to achieve expanded communicative goals is required. For the pre-reading child this suggests that producing language in contexts approximating the constraints of graphic language may be necessary as well. If we look at the process of initial language development, we see comprehension and production intertwined. The child does not first learn to understand language and only then learn how to use it. Production and comprehension represent two sides of the same coin, and they appear to work in tandem.

This view suggests that in addition to oral text production, writing, too often the neglected half of the literacy dyad, may provide a critical context for learning to be literate. Focusing on authentic communicative goals and giving children opportunities to engage in the design process of text production may help them to discover the demand characteristics inherent in a situation involving language use and the strategies which lead to the achievement of the communicative goals.

Telling and writing stories provide children with a problem to solve relative to text formation. They must design a text which makes meanings available to listeners and/or readers. Encouraging children to become readers of their own text productions can provide opportunities for discovering for oneself points at which information necessary
to recover intended meanings is not textually provided. The writer-
turned-reader can discover the use of a pronoun whose referent is not
textually provided or whose identity is ambiguous.

Anecdotal evidence garnered in this study revealed that children
often spontaneously corrected or repaired their dictated texts when
given the opportunity, following dictation, to read them. Corrections
or repairs by text producers were also observed when the intended
audience (teachers and other children) indicated difficulty in re-
constructing intended meanings. This kind of feedback represents
critical information to a language user in evaluating the achievement
of one's communicative goals. Teachers can make certain that this kind
of feedback has the opportunity to occur in the classroom.

Questions and Suggestions for Further Research

The results of one study cannot be considered definitive, regard-
less of findings of statistical significance. And the findings and
interpretations raise additional questions. For example, the children
who participated in this study were a select group placed by choice in
"informal alternative" classrooms offering language environments which
encouraged the use of trade books for reading, individualized instruc-
tion, and writing by children from the very beginning. It can be
expected that the parents of these children who valued this kind of
education and sought it out for their children provided similar contexts
and expectations for learning in their homes. Good science demands
replication, and the stability of these results ought to be tested with
other populations of developing readers.
An interesting extension of the questions asked in this study would be to look at the language of literate and pre-literate adults. Are there differences with respect to text forming strategies and, if so, do the differences occur along the same dimension as they have for the young children in this study? If the findings in this study indeed reflect differences in underlying distinctions about how language is organized and used and of the possibilities of language itself for conveying meaning in abstract and indirect contexts, then the dimension along which differences occur ought to be the same, the patterns similar. At issue is the question of what accounts for the increased ability in adults, noted by Halliday (1978) to free language from the constraints of the immediate environment.

This study explored text forming strategies in two contexts which were selected because they seemed to represent similar task demands. It was expected that performance within literacy group classifications would be similar across the tasks. With the finding of a main effect for literacy this expectation was born out. However the tasks themselves are not identical, as was also born out by the analysis. It could be profitable to explore texture in other contextual configurations, including modes of discourse other than narrative. Discovering the effects on language that result from manipulations of the variables of 1) field--what the language is about; 2) tenor--the set of social relationships between text producer and audience; and 3) mode could be useful in selecting critical contexts for instruction.

Previous research on children's use of reference in language tasks identified differences in verbal strategies relative to the endophoric/
exophoric distinction which was an aspect of texture explored in this study. Such differences have been ascribed to social class, age, and to a limited extent, sex factors. The work of Bernstein's Sociological Research Unit at London University (reported by Hawkins, 1977) found that on a description task, significantly more working class than middle class five-year-old children used reference items exophorically, presuming information which was not lexicalized in the text. However the task involved picture description, and most of the exophora occurred as reference was made to the available pictures. Francis (1974) also looked at reference in working class and middle class children's language, but in a story reproduction task similar to Task 1 of the present study. Francis found no significant differences between the groups classified by social class, but she did find a difference for age. There was a decreased incidence of exophora (of the type classified in this study as restricted exophora) as the children, who ranged in age from five to seven, got older. Martin (1977) similarly found age and, to a limited extent, sex to be factors associated with contextual dependence in narrative tasks. The 6/7 year old children in his study relied to a greater extent on extra-textual presupposition than did children of 8/9 and 10/11 years of age.

In none of these studies involving school-age children were there any reported controls for literacy development. In the light of findings of the present study and the possibility that literacy development may be differentially represented in the groups studied, the extent to which obtained differences in performance relative to the use of
disembodied language can be ascribed to the factors identified in the above studies is in question. Literacy development represents a plausible rival hypothesis, and clearly this is an area for further research.

In conclusion, discovering how children negotiate the transition to literacy is a valuable inquiry. Such information can increase our understanding of the nature of literacy learning and of the differences between oral and graphic varieties of language and also suggest the critical contexts which support such learning for children who are in the process of extending the functional potential of their language.
NOTES

1. Martha L. King and Victor M. Rentel, Principal Investigators: "The Cognitive Processing of Contextual Features Produced by Children in Three Modes of Discourse: Interactive Speech, Dictation, Writing." This project was supported in part by grants from The National Institute of Education under Grant Numbers 79-0039 and 79-0137.


3. Elimination of one or two subjects from cells in the factorial design when $n$ is only six or seven could possibly have potent impact on cell means and variability. To assess this possibility, univariate ANOVAS utilizing data from all 35 children in the subject pool were run on: subject variables (reading test scores and ages); text description variables (text length and mean T-unit length); and on the relative frequencies of each of the text forming devices coded in the data. SOUPAC Program BALANOVA which handles unbalanced designs by the approximate method of unweighted means was used and yielded results which essentially matched those for the reduced subject sample of $N=30$.

BIBLIOGRAPHY


Cook-Gumperz, J. Communicating with young children in the home. Theory Into Practice, 1979, 18, 207-212.


Hunt, K.W. Differences in grammatical structures written at three grade levels, the structures to be analyzed by transformational methods. Cooperative Research Project #1998. Tallahassee, Fla.: Florida State University, 1964.


Olson, D.R. From utterance to text: The bias of language in speech and writing. Harvard Educational Review, 1977, 47, 257-281. (a)


APPENDIX A

INDEX OF STATUS CHARACTERISTICS
NAME: __________________________
ADDRESS: __________________________
Father's Occupation __________
Mother's Occupation __________

INDEX OF STATUS CHARACTERISTICS

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Scale Value</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive, proprietors of large concerns, major professions (law, medicine, engineering, religious, those requiring graduate degrees).</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Managers and proprietors of medium-sized businesses, lesser professions (teaching, ministry, nurses, undertakers, librarians, newspaper editors, reporters, social workers, optometrists, chiropodists).</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Administrative personnel of large concerns, owners of small independent businesses, semiprofessionals.</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Owners of small non-independent businesses, very small businesses, clerical and sales workers, technicians.</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Skilled workers (electricians, plumbers, carpenters).</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Semi-skilled workers (truck drivers, watchmen, gas station attendants, waitresses, small tenant farmers).</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Unskilled workers (Heavy labor, odd jobmen, janitors, scrubwomen, domestics, migrant farm laborers).</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source of Income</th>
<th>Scale Value</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inherited Wealth</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Earned Wealth</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
### B. Source of Income (continued)

<table>
<thead>
<tr>
<th>Source of Income</th>
<th>Scale Value</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profits and Fees</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Salary</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Wages</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Private Assistance</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Public Assistance and Non-Respectable Jobs</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

### C. House Type

<table>
<thead>
<tr>
<th>House Type</th>
<th>Scale Value</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent - large, single-family, good repair, large lawns, landscaped.</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Very Good - slightly smaller but larger than family needs would dictate.</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Good - slightly larger than utility demands; conventional and less ostentatious than the two higher categories.</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Average - one and one-half to two-story, wood frame or brick, single-family dwelling. Conventional with lawns but not landscaped.</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Fair - same as &quot;average&quot; but not well-maintained. Small houses in excellent conditions.</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Poor - badly run-down but repairable.</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Very Poor - deteriorated beyond repair; unhealthy, unsafe, littered, slum.</td>
<td>7</td>
<td>3</td>
</tr>
</tbody>
</table>

### D. Dwelling Area

<table>
<thead>
<tr>
<th>Dwelling Area</th>
<th>Scale Value</th>
<th>Weighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High - high status reputation; clean, trees, parks, and little turn over.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>High - slightly lower reputation; fewer pretentious homes.</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>D. <strong>Dwelling Area</strong> (continued)</td>
<td>Scale Value</td>
<td>Weighting</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Above Average - above average reputation, unpretentious, clean, well-cared for.</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Average - wage earners, working class home.</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Below Average - close to factories, business section, or railroads. Run-down congested, heterogeneous population.</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Low - run-down, semi-slum; some debris and houses set close together.</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Very Low - slum, poor reputation, debris, houses little better than shacks.</td>
<td>7</td>
<td>2</td>
</tr>
</tbody>
</table>
RETELLING SCRIPT

1. Setting up
   1-1 All listener/researchers and reader/researchers should plan to arrive at the school approximately thirty minutes before the data collection is scheduled to begin to check the following:
   a. that the room which has been scheduled for the retelling session is available;
   b. that the room has been arranged for the retelling session, i.e., a table to sit at with an outlet close by for the tape recorder, and two chairs opposite each other: one for the listener and another for the child, situated as to minimize the possibilities of visual distractions and the temptation to tamper with the tape recorder and to maximize the quality of the recording.

2. Reader/researcher tasks
   2-1 When coming to select the children the reader/researcher carries with her several books including the target book which is to be read during that session.

   2-2 The reader chooses the children who will listen to the story during any given session being careful to satisfy the following requirement: the number of children who will participate in the retelling will be equal to the number of listener/researchers available on that particular day.

   2-3 Next, the reader takes the children into the reading session which shall be conducted outside the classroom to prevent interruptions during the reading. As the reader takes her place, she immediately selects the target book to be read and begins:

   I HAVE A STORY TO READ TO YOU TODAY. I ENJOYED IT SO MUCH THAT I WANTED TO SHARE IT WITH YOU. THERE ARE SOME TEACHERS HERE TODAY WHO DON'T KNOW THIS STORY. AFTER I READ THE STORY TO YOU, I WILL TAKE EACH OF YOU TO ONE OF THE TEACHERS SO YOU CAN TELL THE STORY TO THEM. GET READY TO LISTEN. (Short pause to allow yourself to open the book and get everyone's attention.)

   2-4 At the conclusion of the reading, the reader/researcher goes through the book a second time, showing each page, with its illustration in turn:

   LET'S LOOK AT THE BOOK AGAIN.
Pausing only to allow for children's comments, the reader/researcher does not question or offer any additional comments of her own.

2-5 After the review, the reader randomly assigns each child to a listener/researcher. Introduction to the listener:

(child's name), THIS IS MS. (listener/researcher's name). SHE'S A TEACHER WHO IS INTERESTED IN STORIES. SHE HAS NOT HEARD THE STORY THAT I JUST READ TO YOU, AND SHE WOULD LIKE TO HEAR YOU TELL THAT STORY.

3. Listener/researcher tasks

3-1 The listener/researcher takes the child into the listening room and once the child and listener are seated, again explains the task to the child. (Note: check at this time for children who are chewing gum or eating candy.)

(child's name), I'M INTERESTED IN STORIES. I KNOW THAT MS. (reader's name) JUST READ A STORY TO YOU. I DON'T KNOW THAT STORY. I WANT YOU TO TELL ME THAT STORY. I'M GOING TO TAPE RECORD THE STORY TO SHARE WITH OTHER TEACHERS WHO ARE INTERESTED IN STORIES AS I AM. BUT FIRST, LET'S MAKE SURE THE TAPE RECORDER IS WORKING. AFTER I PUSH THESE BUTTONS — SAY YOUR FIRST AND LAST NAME. (Push play and record - allow child to say his full name - then push stop button.) O.K. LET'S SEE IF THE TAPE RECORDER IS WORKING. (Rewind the tape, play the tape so the child can hear his name, then stop tape.) ALL RIGHT, WE'RE READY. TELL ME THE STORY NOW. (Record the entire session.)

3-2 The following problems may arise during the course of the retelling session. Listed with each possible problem are suggested neutral responses for the listener. Obviously it is impossible to predict all problems which may arise during the retelling session. However, the following examples provide a framework from which the listener can draw in dealing with problems which may arise.

a. An obvious brief partial retelling

CAN YOU TELL ME ANY MORE ABOUT THAT STORY? or

IS THERE ANY MORE YOU CAN TELL ME ABOUT THAT STORY?

These probe questions are neutral and do not set up an "and then" response which may bias the cohesive structure of the child's text.
b. If, in addition to a brief partial retelling the child asks you if he can leave, The interviewer must decide on the specifics of that child and that particular situation, but two options are available:

1) Encourage the child to make another attempt:
   I'D LIKE YOU TO TRY AND TELL ME MORE OF THE STORY.

2) Allow the child to return to the room with a simple THANK YOU.

The first option is the preferred way of dealing with this situation, but the second option may be used if the child seems upset about the retelling session for any reason. An occurrence of this nature should be referred to the classroom teacher.

c. Long pauses
   Do not interrupt pauses or turn off the tape recorder. The child may be "planning" what he wants to say next. Any interruption on your part may bias what the child intends to say.

d. Long pauses and it is obvious that the child is unsure about continuing because he apparently has forgotten a part.
   A neutral but partially positive response is suggested in this case. Saying "tell me what happened next" implies that there is a next part, which may or may not be the child's intention. Therefore, a non-verbal gesture of interest or approval is preferred.

e. The child's voice begins fading and you're not sure if his voice is being picked up on the tape.
   \(\text{child's name}\) COULD YOU SPEAK LOUDER PLEASE SO WE CAN HEAR ALL OF YOUR STORY?

f. The child goes off on some tangent which is obviously not part of the story.
   In the past this has not been a problem in the retelling session. However should this situation arise, the following questions are suggested:

   IS THIS PART OF THE STORY? or IS THIS PART OF THE STORY THAT MS. (reader/researcher's name) READ TO YOU?
g. The child begins to tamper or play with the tape recorder, causing noise which interferes with the voice pick-up. Careful setting-up (see section 1-1) will eliminate or minimize the probability of this happening. Should it happen, say the following:

I CAN'T LET YOU DO THAT TO THE TAPE RECORDER.

If the problem continues, you may find it necessary to hold the tape recorder to prevent the child from tampering with it.

h. The child wants to hear himself on the tape recorder (the story). Allowing the child to hear himself on the tape initially will satisfy most of the children (see section 3-1). Also, children have had opportunity for recording and listening to themselves earlier in the classroom, so this session is not novel in this respect. However, for the occasional child who wants to hear this retold story, a suggested response is:

WE DON'T HAVE TIME TO HEAR ALL OF IT, BUT WE CAN REWIND THE TAPE SOME SO YOU CAN HEAR PART OF IT.

Use your judgment as to the approximate length of the replay to use which will satisfy the child.

3-3 Ending: Make no effort to probe for additional details after the child has indicated that he is finished. Simply:

ANYTHING ELSE?

Then to close the session:

THANK YOU VERY MUCH, (child's name).
APPENDIX C

DICTATION SCRIPT
DICTATION SCRIPT

1. Setting up
   1-1 All scribe/researchers should plan to arrive at the school approximately thirty minutes before the data collection is scheduled to begin and check the following:
      a. that the room which has been scheduled for the dictation session is available;
      b. that the room has been arranged for the dictation session, i.e., a table to sit at with an outlet close by for the tape recorder, and two chairs next to each other: one for the scribe and another for the child, situated as to minimize visual distractions and to maximize the quality of the recording. The child should always sit on the scribe’s non-writing hand side to insure that the child can see the actual words he has dictated.

2. Classroom teacher
   2-1 Classroom teachers will have prepared the children for the dictation task prior to the actual collection by providing a classroom storybook project to which children are expected to contribute. While all kinds of writing are promoted and valued at other times in the classroom, original narratives will be encouraged for the classroom storybook project.

3. Scribe tasks
   3-1 Each scribe will take the child from the classroom to the dictating room.

   3-2 Scribe introduction:

   (child’s name), as you know I’m interested in stories. I’m interested in stories that we read from books and in stories that we make up. I’d like you to make up a story and tell it to me. It can be about anything you want, and it can be as long or as short as you want. But it should be your own story, not one that you’ve heard or read somewhere else. As you’re telling me your story I’m going to write it down and tape record it to make sure that I get your story right. I’ll type your story as soon as I can and give you a copy. I will also give a copy to your teacher for the classroom storybook. Later you may want to make pictures for your story. I will be writing down your story so you will have to give me enough time to write down all your words.
FIRST, LET'S MAKE SURE THAT THE TAPE RECORDER IS WORKING.
AFTER I PUSH THESE BUTTONS SAY YOUR FIRST AND LAST NAMES.
(Push play and record buttons, allow the child to say his full name, then push stop button.) O.K. LET'S GO BACK TO SEE IF THE RECORDER IS WORKING. (Rewind tape and play back.) ALL RIGHT, WE'RE READY. TELL ME YOUR STORY NOW AND I'LL WRITE IT ALL DOWN.

3-3 The scribe should attempt to keep up with the child's dictation pace, accepting any comments or instructions the child offers regarding the scribe's writing performance. If the child dictates very fast and appears to be unaware of the scribe's inability to keep pace with the story, the scribe should do her best in writing down as much of the story as possible but make no comment about the dictation pace. Once the child begins his narrative the scribe should be careful not to interact with or interrupt the child nor interject content into the narrative.

3-4 In the event that the child's response is a rhyme, a description, or a retelling of an obviously known story the scribe will accept the response in its entirety. Following the completion of the response the child should be encouraged to dictate another "story":

I'VE READ THAT STORY. TELL ME ONE THAT YOU'VE MADE UP.

Should this approach fail the child should be excused as follows:

THANK YOU VERY MUCH, (child's name). BE THINKING ABOUT A STORY THAT'S NOT IN A BOOK (or from TV) AND YOU CAN TELL IT TO (me/another teacher) TOMORROW.

3-5 The following problems may arise during the course of the dictation session. Listed with each possible problem are suggested neutral responses for the scribe:

a. The child has trouble starting his story
In this situation the child is willing to tell you his story but for some reason is having difficulty getting started. A non-verbal gesture of encouragement would be appropriate. A suggested verbal response:

I'LL GIVE YOU A MINUTE TO THINK.

This shows that you are willing to wait until he is ready.
b. The child asks you if he can leave before finishing his story

1) Encourage the child to continue:

I'D LIKE YOU TO TELL ME MORE OF YOUR STORY.

2) Allow the child to return to the room with a simple THANK YOU.

The first option is preferred but the second option may be used if the child seems upset or distracted. Use of the second option does not eliminate the possibility of having the child dictate a story on a subsequent day.

c. Long pauses

Do not interrupt pauses or turn off the tape recorder. The child may be planning what to say next. Interruption may bias what the child intends to say.

d. The child's voice begins fading and you're not sure his voice is being picked up on the tape.

If during the course of the dictation this becomes a problem say:

(child's name) SPEAK LOUDER PLEASE SO I CAN HEAR ALL OF YOUR STORY.

e. The child goes off on some tangent which is obviously not part of the story.

In the past this has not been a problem in the dictation sessions. However should the above occur the following question is suggested:

IS THIS PART OF YOUR STORY?

f. The child begins to tamper or play with the tape recorder. Careful setting up will minimize the probability of this happening. If it does occur simply say to the child:

I CAN'T LET YOU DO THAT TO THE TAPE RECORDER.

If the problem continues (the child is frequently unaware of his contact with the tape recorder which causes noise on the tape) you may find it necessary to hold the tape recorder to prevent contact.
g. The child wants to hear himself on the tape recorder (the whole story).

Allowing the child to hear himself on the tape recorder initially will satisfy most of the children (see section 3-2). But for the occasional child who wants to hear the whole story an appropriate response is:

WE DON'T HAVE TIME TO HEAR ALL OF IT, BUT WE CAN REWIND THE TAPE SOME SO YOU CAN HEAR PART OF IT.

3-6 Ending: make no effort to probe for additional details after the child has indicated that he is finished. Simply:

ANYTHING ELSE?

This question should elicit any additional information from the child which he feels is important to the story which he may have omitted. If the child has not given a title for his story, you may ask:

WHAT IS THE TITLE OR NAME OF YOUR STORY?

Accept anything the child gives you without comment. Then, to close the session:

THANK YOU, (child's name).
APPENDIX D

ORIGINAL TRANSCRIPT:

RETELLING DATA--BEGINNING READER
IN (child's name) tell me the story now

1 see the the mom wanted um the girl to come for some
2 some um something to eat and and she didn't have
3 anything to eat and the girl couldn't find any
4 and she waited on a branch and she cried on a um
5 broken um tree and this old lady came with a cricked
6 cane and she said my dear um she said I don't have
7 anything to eat and she said I I want to have take
8 this magic bowl and you can have it and fill the she
9 did magic words boil magic bowl boil then she said
10 that then she said stop magic bowl stop and it
11 stopped and then she said mother mother lookit I
12 have a magic bowl
IN hmm
13 I found a old lady gave it to me with a cricked
14 cane and I know the magic words boil magic bowl
15 boil and it boiled and it did have some good
16 porridge and stop magic bowl stop and it stopped
17 and she went to this the other city and see the
18 mother wanted more porridge and she said more
19 porridge bowl boil more porridge and the porridge
21 filled it up up to the top and went onto the ground
22 and she she left hurried runned on the street and
23 her little daughter came and sh- and all the men
and all the ladies came with spoons pitchers plates
and scooped it out after she said stop stop magic
bowl stop and it stopped and then they had they
knew the magic words that's all
is there anything else you'd like to tell
nope yea some but that's all now
okay thank you (child's name)
APPENDIX E

EDITED ORIGINAL TRANSCRIPT:

RETELLING DATA--FLUENT READER
IN speak up a little bit louder so we can hear

1 okay once there was an old woman and her little
2 girl and they were really poor and they only had
3 [a little] a tiny loaf of bread and then every day
4 the little girl would go out [to find] to the woods
5 to find some nuts and berries and one time the
6 little girl went out and she didn't find any nuts
7 or berries so she sat on a tree that fell down and
8 started crying then an old woman came along and she
9 was wearing kind of like a black robe and she was
10 really old and then she took a pot out of her robe
11 and then she said that it was a magic pot and then
12 the old woman gave it to the little girl then the
13 little girl ran home with it as fast as she could
14 well before that the old woman told her the magic
15 words because it was a magic pot and it could
16 bake it could make some porridge with just saying
17 um um something like something like yeah it was
18 boil it was boil pot boil and to make it stop
19 boiling it was stop little pot stop and then so she
20 ran home as fast as she could and showed it to her
21 mom to her mother and then she said that it was a
22 magic pot and then to try it she just put it on the
23 fire and then she said "boil little pot boil and
24 then some porridge started boiling and then they
25 started eating it and then the little girl said
the little girl went to her friend's house at the end of the village and then the old woman put on a ball and then it started boiling and then she ate as much as she could and then when she was all done then she forgot the magic words to make it stop boiling and then it started going all over the house then she opened the door to let it go outside and then it went all over the village then she ran as fast as she could to the place where her daughter went and then she said that the pot wouldn't stop boiling so then then the little girl ran out of the house and ran to
39 her own house/and then she said 'stop little pot stop'

40 stop little pot stop/and she said that a whole

41 bunch of times/and then it stopped/and everyone

42 came out[um]of their houses/and they took a whole

43 bunch of porridge/the end

IN is there anything else you'd like to tell me

44 un un no
once upon a time there was this little baby monkey
and his name was Macaroni
he was shy
his mother took him on lots of walks
he was a happy monkey
he liked his mother when she took him on walks
and he would play on branches
when he was taking a walk one day he met a frog in the water
and the frog said "what is your name?"
and the monkey said "Macaroni"
and the frog went home with him
and they played and played
one day the frog saided "I better get going home"
so the monkey took him back home
((sp:monkey)) and he said "goodbye"
and the monkey walked home
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