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### ABSTRACT

This study examines the writing of six first grade children (three girls and three boys of varying abilities) in a "whole language" classroom where writing was modelled daily during "Morning News" and "writing skills" were taught in context. Conducted from a socio-psycholinguistic/emergent writing perspective, this study addresses two major questions:

- (1) What are the functions and forms of writing in first grade?
- (2) In what ways do these functions and forms change throughout the first-grade year?

All of the children's writing produced during "Writing Workshop" time was analyzed to determine writing functions, structure (genres, structures of text, syntax and sentence patterns), and orthography (segmentation, punctuation marks, capitalization, and spelling). Interrelationships between function and the various levels of form were examined, as were changes throughout the school year. Analytical categories were developed from previous studies and from the data.

Evidence was found to support the following conclusions:

- First grade children write for a variety of purposes. Changes in function appear to be due to children's interests and preferences rather than to their development. There is a trend towards multifunctionalism in first grade writing.

- Children compose written discourses from the beginning of first grade.
- Discourse-level structure increases in both variety and complexity from beginning to end of first grade.
- Segmentation increases in conventionality, with sentence segmentation becoming conventional before word segmentation.
- Punctuation, capitalization, phonemic segmentation and representation, and spelling become increasingly conventional.
- Discourse- and sentence-level forms “follow” function, but orthography does not. Changes in orthography are due to development and writing experience.
- In a comparison of texts produced by children considered by the teacher at the beginning of the year to be “advanced” in development to those of children considered to be “average” or “delayed” in development, at the end of first grade, “advanced” children:
  - write in more complex genres, with more complex text structures;
  - use a greater variety of sentence patterns and punctuation marks;
  - write more conventionally in terms of segmentation, punctuation marks, capitalization and spelling.

Thus, the study provides insight into how children develop as writers and the relationship between functions and various aspects of the development of form.

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## CHAPTER 1

### Introduction

According to Moffett (1979), four definitions of writing are in common use:

- (1) hand writing: the physical act of placing words on a page;
- (2) taking dictation and copying: recording graphically one's own words, or, more frequently, the words of others;
- (3) crafting: fashioning lexical, syntactic, and rhetorical units of discourse into meaningful patterns; and
- (4) authoring: elaborating inner speech into outer discourse for a specific purpose and a specific audience.

Traditionally, the focus for writing in primary education and particularly in first grade has encompassed the first two definitions, with instructional programs emphasizing "basic skills". However, the view that handwriting, spelling, and punctuation are "the basics" of writing has been challenged, since they operate "not as autonomous and discrete skills but as support systems in a developmental sequence" (Emig, 1981).

In this study, writing of first grade children is analyzed from a socio-psycholinguistic/ emergent writing perspective. Socio-psycholinguistic theory suggests that writing must be considered in the context in which it occurs, that writing is a language process involving integrated systems of pragmatics, semantics, syntax and orthography, and that function influences form (Goodman, 1977; Harste, Woodward & Burke, 1984). An emergent writing framework suggests that learning to write is a developmental process of successive approximations towards conventional form rather than the acquisition of discrete orthographic skills.

The terms “function” and “form” are seen as two broad categories for examining the children’s writing, with “function” encompassing the pragmatic and semantic aspects of the writing, and “form” referring to the structural and orthographic features of the writing. In the context of this study, function refers specifically to the children’s purposes for writing. Formal features selected for examination include discourse and syntactic structure (including form of discourse/genre, structure of text, and sentence patterns), and orthography, both punctuation (including punctuation marks, segmentation and capitalization) and spelling. The analysis is conducted in a “top-down” fashion (that is, from function to form, from the largest units of form to the smallest units). It includes a description of patterns for individual children and similarities and differences among children.

#### Purpose of the Study

The purpose of this study is to examine the ways in which first grade children produce “dynamic and integrated patterns of written language” (Loban, 1976), by documenting and describing the functions, form, and function-form interrelationships evident in the writing of the subjects produced at school during the first grade year. The major questions addressed by this study are:

- (1) What are the functions and forms of writing of particular first grade children?
- (2) In what ways do these functions and forms change throughout the first-grade year?

### Research Questions

The following questions form a focus for this study:

#### A Function

1. (a) What functions, defined as the uses to which writing is put, are evident in the first grade children's writing?  
(b) Is there a change in functions of writing throughout first grade?
2. What similarities and differences are evident among the children in relation to function?

#### B Form - Structure

3. What are the structures of writing in first grade, specifically:  
(a) forms of discourse (genres);  
(b) structures of text;  
(c) sentence patterns.
4. In what ways do the structures of writing vary throughout first grade?
5. What similarities and differences are evident among children in relation to structure and structural development?

#### C Form - Orthography

6. In what ways does the orthography of writing change throughout first grade, specifically:  
(a) punctuation (including punctuation marks, segmentation, and capitalization); and  
(b) spelling.

7. What similarities and differences are evident among the children in relation to orthography and orthographic development?

#### D Interrelationships Between Function and Form

8. What relationships exist between functions and various levels of form in first grade writing?
9. What similarities and differences are evident among first grade children in respect to function-form interrelationships?

Examination of interrelationships between functions and forms of writing, as stated in research questions 8 and 9, are new areas of investigation provided by this study.

### Theoretical Framework

Because of our understanding of the nature of language and of language acquisition, there has been a shift of thought towards learning to write as a form of language learning, rather than as the acquisition of perceptual and motor skills (Reid, 1983). Farr's proposal (1985) for viewing (1) writing as language, (2) writing growth as development, and (3) writing as a varying entity in different contexts, provides the theoretical framework for this study.

#### Writing as Language

Vygotsky (1978) suggests that writing begins as a second-order symbol system which gradually becomes symbolism:

This means that written language consists of a system of signs that designates the sounds and words of spoken language, which, in turn, are signs for real entities and relations. Gradually, this intermediate link,

spoken language, disappears, and written language is converted into a system of signs that directly symbolize the entities and the relations between them (p. 106).

From a socio-psycholinguistic perspective, language is a process involving the orchestration of systems: pragmatics, semantics, syntax, and phonology (in oral language) or orthography (in written language). Pragmatics is concerned with the functions of language and the appropriateness of form within the context of situation. Semantics focuses on the meaning of language from the word level to the discourse level; syntax focuses on the relationships of words and sentences or structural patterns of language. Phonology is concerned with speech sounds and orthography deals with the ways in which we record language in print, for example, directionality, spelling, and punctuation, (Goodman, 1977; Shuy, 1981a; Harste, Woodward, & Burke, 1984).

Goodman (1977) suggests that function in writing has been neglected because of an emphasis on mastery of form, yet form follows function (Halliday, 1973; Shuy 1981a; Klein, 1985). As children attempt to express new and more complex meanings they acquire new and more complex forms and functions for language. "In the process they also learn that the forms used to express meaning and intention may vary depending on the purpose and context" (Jaggar, 1985, p. 4). In order to examine children's writing as written language, then, function and form must be examined together, for "to believe that they can be considered in isolation is an analytic fiction" (Scinto, 1986, p. 88).

### Writing Growth as Development

According to Vygotsky (1978), writing growth must be seen in the context of the child's cognitive development, with the process of written language development, in part, a process of differentiating the unique symbolic nature of written language as opposed to other symbol systems, thus growing out of "the entire history of sign development in the child" (p. 106). Vygotsky warned that:

One-sided enthusiasm for the mechanics of writing has had an impact not only on the practice of teaching but on the theoretical statement of the problem as well. Up to this point psychology has conceived of writing as a complicated motor skill. It has paid remarkably little attention to the question of written language as such, that is, a particular system of symbols and signs whose mastery heralds a critical turning point in the entire cultural development of the child (p. 106).

Cognitive approaches to issues of learning and development have contributed to our understanding of learning to write as a process of emerging literacy. In Emergent Literacy as a Perspective for Examining How Young Children Become Writers and Readers, Teale and Sulzby (1986) argue the following points:

1. Literacy development starts long before formal instruction. The search for skills which predict subsequent achievement has been misguided because the onset of literacy has been misconceived.
2. Listening, speaking, reading and writing develop concurrently and interrelatedly, rather than sequentially.
3. The functions of literacy are an integral part of reading and writing as are the forms of literacy.
4. Children learn about written language through active engagement with their world. They interact socially with adults in writing and

reading situations; they explore print on their own, and they profit from the modelling of literacy by significant adults, particularly their parents.

5. Although children's learning about literacy can be described in terms of generalized stages, children can pass through these stages in a variety of ways and at different ages. Any attempts to "scope and sequence" instruction should take this developmental variation into account.

"Learning language is the process whereby children, in interacting with others, construct the language system, i.e., the meanings and functions of language and the symbols to represent them in oral and written form" (Jaggar, 1985). Although there are similarities between the oral and written forms of language, writing is a distinct mode of language. The learning of features specific to the written mode (syntax, organizational patterns, and contextual constraints, for example) has similarities to learning a second language (Harris, 1986).

Children must deal with all the language systems as they learn to write since they occur "in a complex array of forms for complex purposes" (Goodman, Smith, Meredith, & Goodman, 1987, p. 236). As children "keep changing the problems they solve, as well as their consciousness of what they do when they write" (Graves, 1982, p. 177), they divert attention from one aspect of writing to another with the result that previously demonstrated knowledge may temporarily disappear from performance (Clay, 1975; Scardamalia, Bereiter, & Goelman, 1982). Writing development, then, "does not progress in a consistent

'straight line.' As with other cultural phenomena there is a plateauing for brief periods; there is backtracking; there is a zigzag sort of movement where children appear, temporarily at least, to regress" (Klein, 1985, p. 24).

Shuy (1981b) suggests that in the acquisition of language, all systems develop at different rates, in differing degrees of importance to the user and in different relationships to each other. Furthermore, "relatively little is known about individualization or learning styles in the development of language or writing" (p. 122). Shuy (pp. 122-123) further asserts that it is "possible that the developmental lines... are different for different children. The gradual rise in the development of discourse competence in writing ability may be much more sharply developed in certain children, throwing off the ecology of the whole developmental scheme" .

#### Writing as a Varying Entity in Different Contexts

The discussion of children's language must never lose sight of the context in which it occurs, not simply the intermediate spur to speech or writing but the life from which language draws its meaning and the extent to which the school situation inhibits that meaning or nurtures it (Rosen & Rosen, 1973, p. 40).

Writing, as language, is an orchestrated transaction with an intent to convey meaning in a given context of situation (Newman, 1984). Furthermore, since language is sociologically rooted, language learning must be understood within its social context (Harste, Woodward, & Burke, 1984, p. 28).

The context in which writing occurs is significant in that few features of language are untouched by context (Ochs, 1979). Busching and Lundsteen (1983) suggest three different kinds of contexts: expressive, cognitive, and

social, while for Graves (1981), three important categories of context include the writing episode, the life of the writer, and the social-ethnographic context of the episode, including, in classroom situations, the teacher and the other children in the classroom. Ochs (1979) asserts that context "includes minimally, language user's beliefs and assumptions about temporal, spatial, and social settings; prior, ongoing, and future actions (verbal, nonverbal), and the state of knowledge and attentiveness of those participating in the social interaction at hand" (p. 5).

Because the functions of writing vary with the context in which it is produced, the development of writing in school may vary from the development of writing at home. In addition, because classroom contexts vary, writing may indeed develop differently in different classrooms. As Collins (1934) aptly states:

development in writing varies with the functions of writing. Writing development is a hybrid; it combines development in the sense of genetic maturity with development in the sense of learning from instruction and socialization. In the first sense, writing development resembles the learning of oral language or of a second language; the pattern of development shows emphasis on phonology and lexicon at early stages and on syntax and discourse at later ones. In the second sense, writing development is less concerned with form and more with function.... The pattern of development becomes dominated particularly by school-sponsored functions of writing (p. 202).

In this study, Farr's (1985) theoretical framework: understanding writing as language, writing growth as development, and writing as a varying entity in different contexts, is applied specifically to an investigation of the functions, forms, and function-form interrelationships of written language and their

development throughout the first-grade year in the writing of a particular group of children.

### Theoretical Assumptions

This study will operate under the following set of theoretical assumptions:

1. Writing is a complex process cognitively and linguistically (Emig, 1981; Newman, 1984).
2. Children form hypotheses about written language which guide their written language productions (Ferreiro, 1985, 1986; Harste, Burke & Woodward, 1983).
3. One can infer children's thinking or understandings about written language from their written products (Harste, Burke & Woodward, 1983; Newman, 1984).
4. Children's "errors" reflect their systems of knowledge and are evidence of learning in progress (Clay, 1975; Bissex, 1980; Dyson, 1985; Goodman, 1985).
5. "The end-product - the written text - does not necessarily reflect all the knowledge accessed and used during composition" (Stein, 1986, p. 227).
6. Children's written products change in different contexts as well as over time (Sulzby, 1985; Dyson, 1985).
7. There is a growth towards conventionality in children's writing, though this is not a direct or linear process (Bissex, 1980; Ferreiro, 1978).
8. There are similarities across children in written language development (Clay, 1975; Luria, 1978; DeFord, 1980).

9. There are differences between children in written language development (Goodman, 1986; Sulzby, 1985; Dyson, 1985).
10. Function and form are interrelated and operate in an integrated fashion (Goodman, 1977; Shuy, 1981a; Collins, 1984; Scinto, 1986).
11. Form follows function (Halliday, 1973; Shuy, 1981a; Klein, 1985).
12. The form of writing varies with its functions (Collins, 1984).
13. Theoretical knowledge and knowledge provided through research can inform practice: curriculum development, instruction and evaluation.

### Rationale

The present study focuses upon function and form in children's writing in first grade. In examining writing, aspects other than surface features must be considered, for:

to reduce power of language to such mechanics of written language as spelling, punctuation, and capitalization is a dangerous oversimplification. These are not the true fundamentals of language.... A perspective that begins with errors of mechanics rather than with a more complete picture of describable accomplishments seldom reaches to the really important aspects of language utility - interest, pleasure in doing or using, organization, purpose, and other crucial integrating and dynamic patterns of performance. (Loban, 1976, p. 45).

In a study of this nature, it is important to examine function and form and their interrelationships, to analyze whole texts rather than snippets, and to focus on the ways individual children orchestrate the various aspects of form in the production of written texts.

For first grade writers, spelling is a major concern (Graves, 1982), yet because spelling growth is so obvious, it is easy to overlook other aspects of growth (Calkins, 1986). Dyson suggests that as we change our focus in examining children's writing, a different view of a child's development may emerge, for "learning to write, as learning other symbolic systems, involves a unique child coming to understand a distinctive system within the particular contexts of his or her life" (Dyson, 1985, p. 121).

Most studies of writing have ignored the level of discourse (Scinto, 1986). Shuy (1981b) urges researchers to focus on whole written discourses in order to develop a holistic theory of writing development integrating all the components of written language. "Writing is a process of making, and what the writer makes is not a word or a sentence but a text, or a whole discourse. Children, if given the chance, compose whole discourses from the beginning of their development as writers" (Gundlach, 1981, p. 138). Gundlach suspects inquiry at the discourse level "will turn up both interesting common lines of development and important information about differences among children and their growth as writers" (p. 140).

Little is known about individualization in the development of writing (Shuy, 1981b, p. 122). As Dyson (1985) suggests:

Both researchers and teachers... benefit from focusing on the individual child, the child who is in control of the kaleidoscope we call written language. As we observe children arrange and rearrange its pieces, we gain new understanding of the intricacies of written language and of the learning child as well (p. 122).

By providing information about the functions and forms in first-grade writing, this study will enlarge our understanding of how writing develops in first grade and will contribute to a developmental theory of writing. It differs from other studies in that it also provides information about the interrelationships between functions and forms in first-grade writing.

### Significance of the Study

This study is significant from three different perspectives: theoretical, methodological, and educational. Each of these perspectives will be elaborated.

#### Theoretical Significance

This study provides insight into how children develop as writers and the relationship between functions and various aspects of the development of form. The study's contribution is unique for several reasons:

- it examines writing from a functional perspective which has been studied only minimally;
- it investigates the impact of function upon form;
- it examines form from a "top-down" perspective, from text to sentence to word;
- it looks at first grade writing in an emergent writing framework;
- it uses subjects from a first grade classroom in which writing is modelled daily, and in which the "bits and pieces" of written language are dealt with entirely in the context of writing, rather than in discrete skills approaches such as "writing", "phonics", or "spelling" lessons;

it analyzes texts that were produced in a natural classroom context;  
it uses Canadian subjects; and  
it is longitudinal, drawing upon an entire year's production of writing from a group of six children of varying abilities.

This study provides insights that are both specific, concerning the functions and forms of the writing produced by these children, and general, concerning the way in which children's control of a complex system of language evolves.

#### Methodological Significance

This study is significant as an example of analysis of a large, complex body of data consisting of whole texts, and a "top-down" functional perspective. It is also significant as an indication of how one may analyze writing from the dual and interactive foci of function and form. In addition, it is an indication of how quantitative and qualitative methods of analyzing data may be incorporated within the same study. The specific analytical procedures developed will be of use in future research.

#### Educational Significance

Knowledge about the functions and forms of writing in first grade has significant applications to curriculum and instruction. Many classroom practices are not supported by recently emerging knowledge about how children learn to write. This study provides information about how writing develops in supportive classroom situations in which writing is modelled and writing skills are taught in context. The information should encourage teachers to provide supportive literate environments during the early primary years of a child's education.

### Limitations

The following are major limitations of this study:

1. The corpus of writing included in the analysis was produced during a Writing Workshop period of the school day. Other pieces of writing produced by the children at school - for example, a sign to accompany a model or a letter to another child, or writing produced at home - are not included in the analysis.
2. Sampling of subjects is selective and purposive rather than random. Since the study is not an experimental design with random sampling and random assignment of subjects to treatment conditions, generalizations cannot be made from the case study subjects to the population of first grade children in general.
3. There have been criticisms of functional models of language, especially in the field of composition theory. Since language tends to be multifunctional, functional categories are not discrete and assignment of language to specific categories may be arbitrary. In order to address this limitation, the children's writing in this study was assigned to multiple function categories where appropriate, and inter-rater reliability was conducted to verify the classification system.

In spite of these limitations, however, "while case studies do not provide the generalizability of large numbers or experiments that can be readily duplicated, they are more true to life in their revelation of individuals in action and their reflection of the complexities of those individuals and actions" (Bissex

& Bullock, 1987, p. 11). Furthermore, evidence accumulates as case studies are conducted with a variety of populations in a variety of contexts.

### Definitions

The following definitions will apply to this study:

|                          |                                                                                                                                                                                                        |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Piece of Writing:</u> | The writing produced by a child during one writing session.                                                                                                                                            |
| <u>Function:</u>         | The perceived use to which the writing is put from the point of view of the writer (Bruner, 1984; Perera, 1984).                                                                                       |
| <u>Form</u>              | All structural aspects of writing at discourse, sentence, and word levels. In this study, form has been divided into two broad categories, structure and orthography.                                  |
| <u>Structure</u>         | Formal features related to meaning (Miller, 1974), specifically at the discourse level - forms of discourse/ genres and structures of text - and at the sentence level - syntax and sentence patterns. |
| <u>Orthography</u>       | Formal features related to coding (Miller, 1974), specifically, punctuation and spelling.                                                                                                              |
| <u>Reproduction</u>      | A typographically reproduced text in which a child's text is reproduced as identically as possible, complete with spacing, line breaks, capitalization,                                                |

punctuation and other marks, and non-conventional spellings.

Transcription

A transcription of a child's text into conventional written English, that is, with conventional segmentation, upper and lower case letters, punctuation marks, and spellings.

Conventions Used in This Study

Figure 1 provides a key to the typographic conventions used to indicate various aspects of the children's writing in this study.

Figure 1Conventions Used in the Presentation of Transcripts and Reproductions


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|                   |                                                                                                                                                                                                                                                                      |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (text)            | Parentheses enclosing text contain notes, usually the name of the author and the date the text was written.                                                                                                                                                          |
| ()                | Empty parentheses indicate non-decodable words.                                                                                                                                                                                                                      |
| [text]            | Square brackets enclosing text supply words omitted by the writer that are required to make the text semantically and syntactically acceptable.                                                                                                                      |
| ...               | Ellipsis points indicate omitted material.                                                                                                                                                                                                                           |
| CAPITALIZED FONT  | Unless otherwise indicated, capitalized words or phrases indicate a child's written representation, which may or may not be conventional.                                                                                                                            |
| miXed FoNt        | Where indicated, mixed upper and lower case letters indicate a child's use of upper and lower case letters, which may or may not be conventional.                                                                                                                    |
| Conventional font | Unless otherwise indicated (i.e., when a child has produced a text in conventional written English), conventional upper and lower case letters indicate a transcription of a child's text into conventional written English, with standard spelling and punctuation. |

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## CHAPTER 2

### Review of Literature

Language develops in a language-rich environment in which it is used in purposeful ways (Halliday, 1973; Tough, 1977; Cazden, 1981; Heath 1983), through interaction with others and through learning to construct shared meanings (Vygotsky, 1978; Wells, 1983). Adults, particularly parents, provide a supportive framework for the child. This support may be considered as “scaffolding” in which the parent assists and structures the child’s intentions (Wood, Bruner, & Ross, 1976; Bruner, 1978; Luria, 1979), or as “tracking”, in which active structuring is orchestrated by both child and parent (Harste, Woodward, & Burke, 1984).

Studies of early writing development in the home (Read, 1975; Bissex, 1980; Baghban, 1984; Taylor, 1983, 1986) in the preschool (Hiebert, 1981; Goodman, 1986; Schickedanz, 1987) and in the kindergarten (Sulzby, 1982, 1985; Dyson, 1984, 1985, 1986, 1989) indicate that written language develops concurrently and interrelatedly with oral language in literacy-rich environments in which children interact with literate others and have opportunities to experiment and practice with written language (Teale, 1986; Goodman, 1986). “From a socio-psycholinguistic perspective it seems ludicrous to assume that, given a literate society, young children, while actively attempting to make sense of the rest of their world, would selectively decide not to attend to print” (Harste, Woodward, & Burke, 1984 p. 61).

Goodman (1984) contends that children discover functional, linguistic and relational principles, visual perception of orthography and different kinds of

texts not as separate features of written language, but in a complex array. Furthermore, she has found “the naming of letters, numbers and words apart from the use of written language seems to be conceived by many children as a task unrelated to reading or writing” (1986, p. 11). For Goodman, the “roots of literacy” lie in:

1. print awareness in situational contexts;
2. print awareness in connected discourse;
3. development of functions and forms of writing;
4. use of oral language to talk about written language;
5. metacognitive and metalinguistic awareness about written language.

Since this study examines children’s products, the review of literature will focus on research related to children’s written products and will not include research on writing as process. There are three areas of research related to the present study: functions of written language, structure and structural development, and orthography and orthographic development. “In a functional model, linguistic form is seen as derived from, reflecting on, or constrained by the situation surrounding the use of language. Function precedes form...” (Bernhardt, 1986). Thus the literature review commences with a review of language functions in general, and of writing in particular.

### The Functions of Written Language

Every child in a literate society is involved in reading and writing during the course of everyday life, the striking feature of which is the social nature of the experience, with language mediating all domains of human activity (Teale,

1986). Teale contends that children's progress in learning to read and write is a product of adult-child interactions involving literacy, children's independent explorations of written language, and observations of others using written language.

Because writing cannot be understood independently from other forms of language (Tway, 1983; Bruner, 1984), it is important to place the functions of writing in a general language context. Therefore, the literature related to language functions in general and the functions of talk will be reviewed before considering the functions of written language. Finally, the functional aspects of writing in a school context will be examined.

### Language Functions

Function is an integral part of language. From the very beginning, children learn language as they learn its functions (Halliday, 1973; Fillion, Smith, & Swain, 1976). "For the child, all language is doing something" (Halliday, 1973; Holdaway, 1979).

An early taxonomy of language functions is that of Peirce (1932). Peirce classified language into three major categories: indexical (relying entirely on deixis, pointing, or ostensive use of words, e.g., labelling), intralinguistic (translating one set of symbols into other sets of symbols, e.g., referring to a noun with pronouns, translating speech into written form), and metapragmatic (talk about text, e.g., paraphrasing or quoting).

In 1973, Michael Halliday's seminal work, Explorations in the Functions of Language, outlined seven language function categories:

- instrumental language - to satisfy wants or needs;

- . regulatory language - to control the behaviour of others;
- . interactional language - to establish and define social relationships;
- . personal language - to discover one's self, to express individuality, feelings and opinions;
- . imaginative language - to create a putative rearrangement of the environment to suit the speaker;
- . heuristic language - to explore the environment, to investigate, to acquire knowledge and understanding;
- . representational language - to communicate information, report facts or conclusions from facts.

Halliday also pointed out that the relative importance of these functions and the ability to use them changes as one matures, for example, children are very imaginative, but not very adept at reporting. Halliday's classification is the most frequent one referred to in educational literature.

A somewhat different classification of language functions developed by Goffman (1974) does not appear to be as well known in the field of education. Goffman, using a social framework for analysis, one that incorporates "the will, aim, and controlled effort of an intelligence, a live agency, the chief one being the human being" (p. 22), lists what he calls "five basic keys" to language functioning:

- . make-believe, which comes from the satisfaction that the action offers;
- . contests, based on the literal model of fighting;
- . ceremonials, or social rituals;
- . technical redings, which are performed for purposes that are different

from those of the original action, such as practice and demonstrations;  
and

- . regroundings, including the replaying of experience and the expression of feelings related to the experience.

Smith (1977) provided another view of classifying language by function.

He proposed three categories:

- . divertive language - to enjoy an actual language sequence;
- . authoritative/contractual language - to legislate or bind agreements;
- . perpetuating - to record events, ideas and feelings.

Even very young children are able to use language for a variety of purposes. From a study of mother-child interactions, Schachter (1979) identified ten different communicative functions in the everyday talk of toddlers aged eighteen to thirty-six months. The toddlers were able to use language for:

- . expressive communication (Ouch!);
- . desire communication (I need red.);
- . possession rights communication (That's mine.);
- . ego-enhancing communication (Look at my big house.);
- . self-referring, self-including communication (Me too);
- . joining communication (You're my friend.);
- . collaborative communication (The garage goes there.);
- . reports on self, others, things (I run.);
- . learning communication (What's that?); and
- . calls when out of sight (Mommy!).

In the same study, Schachter explored the functions of the mothers' talk.

Noting that some of it was multifunctional, she investigated the functions of

multifunctional talk from the point of view of primary and secondary roles. The most frequent secondary functioning was teaching. Teaching was often interpolated into a speech act whose primary function was in another category. She cites the example of a mother confirming a child's report, "Look at the bus.", who interpolates some teaching when she replies, "Yes, it's a double-decker bus." In this instance, the primary function is to confirm a report, the secondary function, to provide knowledge.

Listening to Children Talking: A Guide to the Appraisal of Children's Use of Language (Tough, 1976) provides a framework many teachers find useful for observing the functions of language. Tough's functions include using language:

- . to self-maintain - to refer to needs and wants, to protect self and interests, justify behaviour;
- . to direct - to monitor own actions, to direct self and others;
- . to report on past and present experiences - to label, to refer to detail/incidents/sequences of events, to make comparisons, recognize related aspects, recognize central meaning, reflect;
- . to reason - to explain a process, to recognize cause and effect, problems and solutions, to reflect on events, draw conclusions, justify judgments;
- . to predict - to anticipate events, including detail and sequences, to anticipate problems and possible solutions, predict consequences;
- . to project - project into experiences, feelings, reactions of others, situations never experienced;
- . to imagine - develop an imaginary situation based on real life or fantasy.

Using these function categories in a study of preschool children's talk, Tough (1977) found that the children in her study could use talk to maintain status in a group, to direct actions of both themselves and others, and to talk about things in the present. She found, however, that the children differed from adults and from one another in their ability to recall their own relevant past experiences; to make associations, analyze events, anticipate and predict; collaborate and sequence possible events; and to move away from the immediate concrete play situations and project into the perspectives and experiences of others.

In Talk in the Language Arts Classroom, Klein (1977) lists three major uses of talk: (1) motive of action, which sets social tone, (2) assist to thinking, language as inner speech, and (3) communication. Klein divides talk into two major categories: asserting, with a communicative purpose, and non-asserting, with the major purpose of developing thinking. Asserting language is further broken down into the functions of proposing, describing and explaining; non-assertive language into inquiring and convergent and divergent exploring. In a more recent article, Klein (1985) states that children:

are capable of addressing the major communication functions with language that adults do. It is not difference in language functions so much which separates the mature language user from the developing language user as much as it is difference in quality and degree of sophistication in the various functions (p. 448).

Recent studies include that of Dyson (1986b) and King (1985). Dyson analyzed kindergarten children's oral language and found evidence of representational, directive, heuristic, personal and interactional language. In an investigation into the functions of language in first and second grade, King

(1985), also using Halliday's categories, found that children are able to use talk in instrumental, regulatory, interactional and personal ways in first grade, with heuristic, imaginative, and informative uses of language developing at the end of first grade and beginning of second grade.

Story-telling is a language function often associated with young children, although it is assumed that children are primarily receivers rather than producers of stories. In examining the functions of young children's oral narratives, Preece (1985) found ten major categories: informational, self-aggrandizement, social solidarity or exclusion, entertainment, adaptation, floor-holding, teasing, retaliation, diversion, and gaining sympathy.

Halliday (1973) suggests that oral language serves primarily an interpersonal or illocutionary function whereas written language is primarily ideational. Torrance and Olson (1981; Olson, 1977), on the other hand, believe that speech is "plurifunctional", with a conflation of interpersonal and ideational functions, while in writing there is a process of differentiation and specialization of functions.

Nelson (1973) has suggested that some children have an orientation towards interpersonal functions, using primarily social interaction language, while others are oriented towards ideational functions, mainly using "object language". Likewise, Wolf and Gardner (1979) found two styles of early symbolization in early childhood, with one group of children, "patterners", focusing on the physical world and using a high proportion of object names, and another group, "dramatists", focusing on the social world, using a high proportion of proper names and social expressions.

### Writing Functions

Writing is a social practice that varies with use (Farr, 1986) and with one's culture (Scribner & Cole, 1981b). "Learning to write... entails learning how to use language in specific, culturally embedded ways...." (Farr, 1986, p. 217). It also involves the gradual differentiation of the functions of speech and writing (Scinto, 1986). Perera (1984) comments that speech and writing have, on the whole, different functions, with writing encompassing three major categories: storage (e.g., lists), labelling (e.g., signs and instructions), and a specialized function found in literature. Stubbs (1980) proposes that the basic function of writing is the recording function:

The basic function of a written language, on which other functions logically depend, is what we would call the recording or storage function, and hence the transmission function (p. 102).

Thus, specific purposes - to transmit information to another, to aid memory, to maintain or administer bureaucracies, to examine ideas critically, to gain knowledge - all develop from the basic recording function of written language. Stubbs also asserts that "the functions of spoken and written language do not overlap that much" (p. 28), disagreeing with the Vygotskian perspective, that written language is a secondary representation of the primary representation, spoken language. Rather, both speech and writing are "realizations of language in different media" (p. 34). Others, however, believe that young children's writing is closely linked to oral language; the simplest function of writing may be little more than the recording of speech (Torrance & Olson, 1981).

In the 1970's there was a flurry of taxonomies of oral language functions;

the 1980's produced several taxonomies of written language functions. Gundlach (1981) declares that children may write to fantasize, to "recall and savor personal experiences" (p. 145), to organize the events of their everyday lives, to explore cause and effect and other relationships and for aesthetic purposes, to create images and to make moods. Goodman (1984, 1986) studied young children's literacy behaviours to determine the functions children learn. She lists the functional principles of literacy learned early by children as: ownership and labelling, extension of memory, sharing information about self and others, invitations and expressions of gratitude, representation of real and imagined events, control of behaviour, and information.

Anderson and Stokes (1984) investigated the domains of literacy in homes that young children witnessed or participated in, arriving at the following functional categories: daily living, entertainment, school-related activity, work, religion, interpersonal communication, literacy for the sake of teaching/learning literacy, general information, and storybook time. Teale (1986) found the same functional domains in a similar study of literacy in the home.

Britton (1970) hypothesizes that written language functions develop from expressive writing into a continuum of functions from transactional to poetic. However, he also states, in a somewhat contradictory fashion, that "a good deal of early writing is aimed at producing written objects rather than at communicating" (p. 165). As Dyson (1984c) states, "oral language surrounds but is not necessarily the substance of first writing. That is, children talk about their writing, but they don't necessarily write talk" (p. 266). Moffett (1983), contends that function develops in a process of abstraction, beginning with recording, followed by reporting, then generalizing, and finally, theorizing.

In GNYS AT WRK, Bissex (1980) reports that her son, Paul, first used writing to convey a general message, including signs and labels, not to represent speech. However, writing as encoding speech soon followed. In first grade, a major purpose for Paul's writing was writing to learn to write. An important point that Bissex makes is that the majority of Paul's writing was integrated with his play activities and drawing, with the second most frequent function the sending of messages in the form of notes and cards. At home, Paul produced a multitude of forms of writing for a wide range of purposes, expressing himself in print as he did in his talk. "Paul, like his parents, wrote (and read and talked) because what he was writing (or reading or saying) had meaning to him as an individual and as a cultural being. We humans are meaning-making creatures, and language - spoken and written - is an important means for making and sharing meanings" (Bissex, 1980, p. 107). However, throughout the entire period of the study, with few exceptions, Paul's school writing was structurally monotonous and repetitious, with written vocabularies at home and at school having very little overlap.

"Purposes [for writing] must come out of the lives of children as they work and play together" (Yatvin, 1981, p. 56). Through play, children experiment with the functions of writing (Vygotsky, 1978; Schickedanz, 1978; Bissex, 1980; Bruner, 1984). When writing development is viewed in a larger context, as part of symbolic development (Vygotsky, 1978; Gardner, 1983, 1986; Dyson, 1989), its relationship to the development of other forms of symbolic representation, such as talking and drawing, is evident. Vygotsky (1978), who theorized that drawing and writing evolve from gesture, saw writing development in terms of differentiating out the unique symbolic nature of written language as opposed to

other symbol systems. Gundlach (1981) suggests that children's writing is related in function "to other activities in which children use representational symbols, such as drawing, sculpting, drama, and other forms of symbolic play" (Gundlach, 1981, p. 146). According to Gundlach, children's writing needs to be studied to discover the ways in which it is both continuous and discontinuous in function with other symbolizing processes. Dyson (1986a, 1986b, 1989) investigated the different ways children weave together talk, drawing and writing, finding that "young children are symbol weavers: the imaginary worlds they form on paper may lean on varied symbol systems or media - drawing, talking, writing" (Dyson, 1986a, p. 799).

#### Functions of Writing in School

Writing development is less concerned with form and more with function.... The pattern of development becomes dominated particularly by school-sponsored functions of writing (Collins, 1984, p. 202). Although teaching literacy through functional use has long been recommended (Iredell, 1898; Huey, 1908; Dewey, 1916), schools almost completely neglect function (Cazden, John & Hymes, 1977). More recent admonitions to consider the functions of language come from King (1985, p. 37): "It is the obligation of the school to extend the opportunities for children to use language for an ever increasing range of purposes - especially to use it to learn", and from Milz (1981, p. 36): "Writing must be an integral, **useful** part of the classroom and be related to the child's individual needs" (emphasis added). However, Bereiter (1980) contends, "as soon as we begin to look beyond syntax, vocabulary, and the like, and try to investigate functional aspects of student writing, we begin to find out more about the school system than we

find out about children". This is a major concern, for how one acquires language is affected by the uses to which it is put in the process (Bruner, 1984).

Few studies have looked at the functions of school writing. In a two-year study of writing functions in second and third grade, The Functions of Writing in an Elementary School Classroom, Florio and Clark (1982) identified four functions of writing: writing to participate in community, writing to know oneself and others, writing to occupy free time, and writing to demonstrate academic competence. The only study which examined function in first grade writing was Milz (1983) who used Halliday's classification. The major functions used by the children were personal, interactive, and informative. Imaginative and regulatory functions were rarely used. In a subsequent article, Milz (1985) lists the following uses the children in this class had for writing:

- . establishing ownership or identity, e.g., labelling a possession, identifying the author of a story;
- . building relationships, e.g., writing notes, written conversation;
- . remembering or recalling, e.g., writing a note to oneself to remember, journal writing;
- . requesting information or items;
- . recording information, e.g., words labelling a picture representing in writing what has been drawn;
- . fantasizing or pretending, e.g., creating imaginary stories.

A review of the research of written language functions, in general, and of school writing, in particular, indicates that there is a need for further research into the functions of writing in school settings. Because the research that does exist focuses on function separately from form, the present study attempts to

study first grade writing from a functional perspective and also to investigate function-form interrelationships. An important point to note is that in this study, writing, as language, is considered to be mainly multifunctional, therefore, the children's written products may, in most cases, be considered as serving more than one purpose. Furthermore, the study will attempt to discover relationships between functions in first grade writing.

### Structure and Structural Development

Descriptions of writing should begin with characterizations of whole discourses and should be discourse specific to demonstrate how various features of text "pattern differently in different kinds of writing" (Cooper, 1983, p. 289). Since structural analysis in this study begins with the discourse level, followed by the sentence level, first the literature related to genre will be reviewed, followed with a review of the literature related to syntax. In the context of this study, genre refers "not only to those forms of writing normally valued in literary studies, but also to the expository forms or genres used to construct meaning in the various school disciplines" (Christie, 1986).

### Genre

Genres appear in writing that do not appear in speaking (Martin, 1985) because writing and speech have different structural patterns, a basic distinction being the dialogic nature of speech and the monologic nature of writing (Holman, 1976; Scinto, 1986). Children are aware of the different natures of speech and writing (Halliday, 1973; Goodman, 1984, 1986; Sulzby, 1986). However:

most people think of learning to write as learning to write down what we would otherwise say. The problem with this intransitive view of writing is that it doesn't take into account the vast differences between speaking and writing. Writing in fact involves more than transcription. Learning to write involves learning new genres and new ways of using grammar as well (Martin, 1985, p. 53).

Children “early, and by rather mysterious means, shape their compositions according to discourse schema constraints” (Bereiter & Scardamalia, 1985, p. 96). Bissett (1980) identified a variety of forms in her son's early writing, including lists, signs, captions, labels, birthday cards, notes, letters, game boards, stories, directions, statements, and newspapers. She concluded, however, that her son seemed to be playing with and practicing these forms rather than using them for their adult purposes.

One aspect of learning to write entails mastering the structural and organizational patterns of written language (Perera, 1984; Martin, 1985; Martin & Rothert, 1986), the other is “the acquisition of a repertoire of discourse forms” (Hudson, 1986). The schooling process moves children deliberately from dialogic discourse organization to monologic organization (Scinto, 1986).

#### Genre classification systems.

Taxonomy is often regarded as the dullest of subjects, fit only for mindless ordering, and sometimes denigrated within science as mere “stamp collecting”.... If systems of classification were neutral hat racks for hanging the facts of the world, this disdain might be justified. But classifications both reflect and direct our thinking. The way we order represents the way we think (Gould, 1983, p. 72).

The writing classification systems best known in education include the categories of narration, description, exposition and argument (Perera, 1984) and the categories suggested by Britton and others (1975): expressive, poetic, and transactional. Yet another classification commonly found in education is

the following, developed by Moffett and Wagner (1983). Their scheme, which bears some resemblance to functional models, includes the following:

- . word play (which focuses on the form, not content);
- . labels and captions (in which the non-verbal context supplies much of the message;
- . actual and invented dialogue(which is like speech written down);
- . *invented stories* (which *recount* a series of imagined events);
- . true stories (which are about self or others, in past tense);
- . directions (which tell how to do something);
- . information (generalized fact, stated in present tense); and
- . ideas/reflection (thoughts usually in present tense of generalization or use of metaphor).

Wilkinson and others (1980) used divergent models for assessing writing of seven, ten and thirteen year old children along different dimensions: cognitive, affective, moral, and stylistic. Their cognitive model featured developmental categories from concrete to abstract levels of thinking. The writing of seven year old children appeared in two concrete levels, describing (labelling, naming, partial information, recording, reporting) and interpreting (explaining, inferring, deducing). According to Cooper (1983), however, description is not so much a special form of discourse or genre as it is a particular writing strategy used in order to accomplish the writer's purpose.

From an analysis of first and second grade children's writing, King and Rentel (1983) identified the following genres:

- . no text;
- . statement/label - a single word or phrase defining or describing

- something in the immediate environment ;
- . composition - a present tense depiction of a child's current experience;
- . interaction - a text with many elements of a dialogue that has an implied listener with whom an experience is being shared;
- . chronicle - real events in a child's life expressed in story frame (character, actions, and thematic unity); and
- . tale - fictional story.

Like Moffett and Wagner (1983) classification, King and Rentel's scheme bears similarities to functional models.

Some classification systems use time as the major dimension for classifying genres. For example, Harris (1986) outlines the following categories:

- . time-related - organized chronologically:
  - fictional narrative (imagined events);
  - personal narrative (existential events);
  - quasi-narrative (e.g., descriptions of scientific processes, historical events);
- . non time-related - organized on a variety of bases, such as:
  - classification;
  - comparison-contrast;
  - hypothesizing; and
  - problem-solution.

Martin and Rothery (1986) found three basic genres in first grade writing:

- . observation/comment - a direct reference to the child's own

- experience, with more or less random strings of observations;
- . recount - a series of events from the child's own experience, sequenced chronologically; and
- . report - a set of facts describing an object, usually from the child's own experience.

Martin and Rothery suggest a developmental sequence, with "observation/comment" being the basic genre. From this, with the addition of the element of time, "recount" evolves. Recounts connect events temporally, but contain no crisis or complication. Then, narrative develops from the recount genre, with the inclusion of a problem which must be resolved, the result of which is the familiar narrative schema: orientation, complication, resolution, and coda (Labov, 1972). "Report" evolves from observation/comment with the addition of the element of topic. This developmental sequence suggested by Martin and Rothery is similar to that described by Sowers (1979) in her study of first grade writing. She found that when action entered the children's writing, their texts tended to change from "all about" stories to narratives.

Perera (1984) devised a framework for genre analysis with school writing specifically in mind. The dimension of time created two broad divisions, chronological (loosely called narrative) and non-chronological. Chronological writing contained verbs that described actions or events and temporal connectives such as "then" and "next"; non-chronological writing contained verbs of attribution or attitude. She then divided both types of texts according to (1) the relationship of the writer to the subject (personal to distant) and (2) the relationship of the writer to the audience (personal to impersonal).

Further classifications systems are found in the literature. In many cases,

these classifications are specifically narrative. Less often, non-narrative classifications are found.

Narrative forms. Scarlett and Wolf (1979) divide narratives into three types: non-fiction (stories about children's own lives), fiction (stories that could be true, but are not, with real or realistic characters, and fantasy (stories that could not be true, with make-believe characters, such as unicorns). In Frame Analysis, Goffman (1974) describes various narrative forms, including make-believe, fantasy, replays (story-like structures featuring the speaker as protagonist, told in past tense) and pre-plays (analogous to replay, but told in future tense).

Heath (1986) divides narrative forms into four types: recounts (the telling of information already known by the listener), accounts (in which children may use their imagination), eventcasts (verbalizations as things are carried out), and storied (a series of events involving an animate being whose behaviour is goal-directed). Freece's (1985) classification of stories told by five year old children is extensive. She identified fourteen different types of narratives, including tattle tales, retellings, cons, narrative jokes and collaborative narratives. Perera's (1984) narrative forms, categorized by relative distance from the writer, include, from most personal to most distant: autobiographical accounts or personal stories, biographical accounts or stories about others, and accounts of processes.

Several classifications are developmental in nature (Applebee, 1978), Stein and Glenn (1979) and Monaghan-Nourot, Henry and Jones (1988). These classifications will be elaborated under Structural Development.

Non-narrative forms. Few classifications of non-narrative forms exist.

Perera's (1984) classification of non-narrative forms is based on relative distance from the writer and reader. The most personal form includes descriptions of friends; intermediate forms include descriptions of types of people (for example, pirates); the most distant form includes descriptions of structures and evaluations of ideas.

In Factual Writing, Martin (1985) explains his theory about how various types of non-narrative writing develop. He suggests that procedures (such as instructions and directions), are closest to stories because they are both built and based on sequences of events. While recounts are about something that actually happened, procedures are about how things happen in general. While verbs in recounts are past tense, verbs in procedures are generalized present tense (directions) or imperatives, which are not marked by tense (instructions). Martin categorizes factual writing along two dimensions: particular/general and event focus/thing focus. Thus:

- . recounts (what happened) are particular/event focused;
- . procedures (how things are done) are general/event focused;
- . descriptions (what some particular thing is like) are particular/thing focused;
- . reports (what an entire class of things is like) are general/thing focused.

In addition, he defines explanations as "why a judgment has been made" and exposition as "arguments why a thesis has been proposed". A further classification of non-narrative writing is developmental in nature (Newkirk, 1987) and will be elaborated under Structural Development.

Structural development. Labov (1972) provided a framework for developmental studies of narrative by identifying its central features: orientation, complicating action, evaluation, result, and coda. Because narrative writing is considered by many to be easier for children than non-narrative writing (Burgess, 1973; Wilkinson et al., 1979, 1980; Bereiter, 1980), it is apparently more highly valued than non-narrative in the primary grades (Christie, 1986; Collerson, 1986). However, for most young children, learning to write true narratives is usually difficult and many early attempts are but “frame stories”, which often include little more than formulaic openings and closings and content that is a setting without elaboration (Sutton-Smith, 1979). Attempts to solve problems and resolutions appear later in development (Mandler & Johnson, 1977).

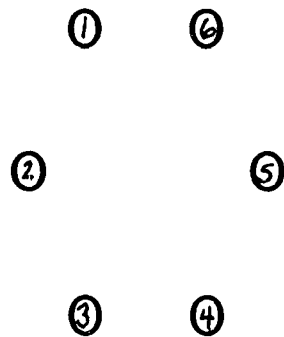
The following developmental classifications of narrative and non-narrative writing are based on the work of Vygotsky. Vygotsky (1962) maintained that children move from complexes (arrangements based on the concrete) to pseudoconcepts (arrangements based on the functional meanings of objects, but still require the concrete for organization), and finally to concepts (arrangements that are abstract in nature).

In The Child's Concept of Story, Applebee (1978) traced the development of children's oral narratives. He described how the two basic processes, centering and chaining, produce increasingly mature narrative forms, from “heaps” to narratives. Table 1 shows Applebee's classification and structural forms.

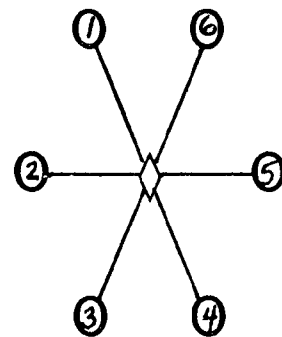
Stein and Glenn (1979) extended Applebee's categories in their analysis

Table 1Developmental Stages of Narrative (Applebee, 1978)

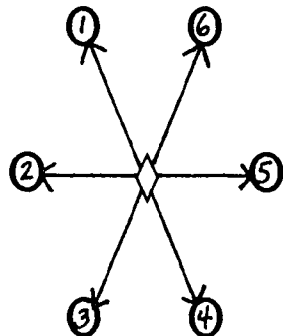
## 1. Heaps



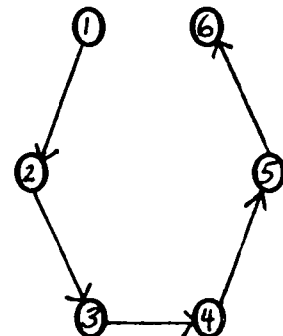
## 2. Sequences



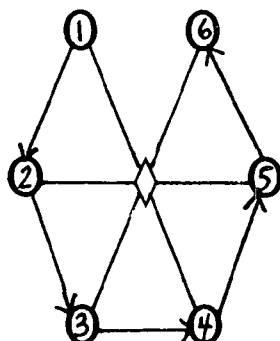
## 3. Primitive Narratives



## 4. Unfocused Chains



## 5. Focused Chains



## 6. Narratives

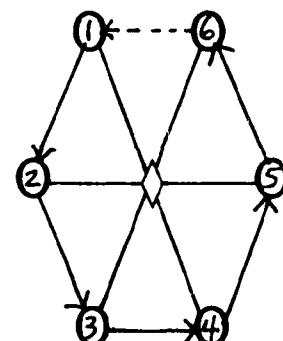
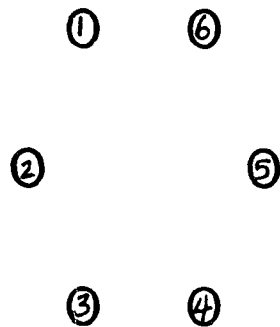


Table 2

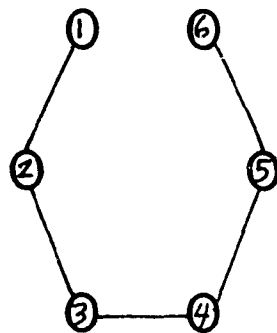
Revised Developmental Stages of Narrative (Manningham-Nourot, Henry & Jones, 1988)

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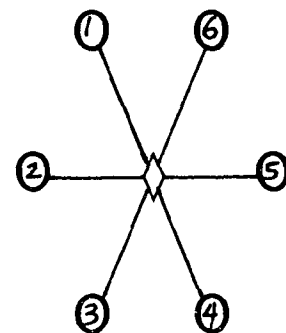
1. Heaps



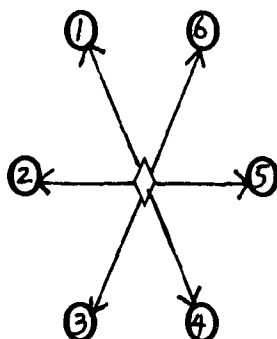
2. (a) Chained Sequence



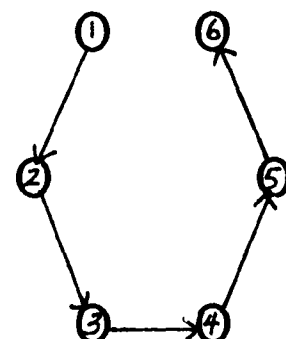
2. (b) Centred Sequence



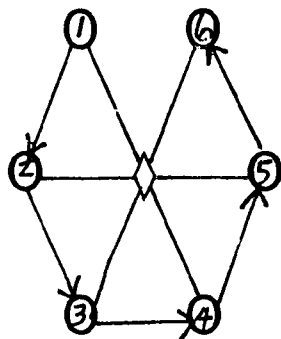
3. (a) Primitive Narrative



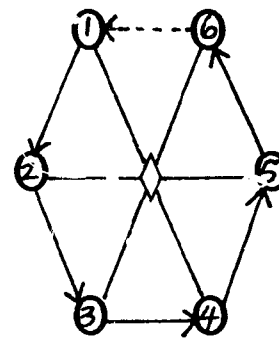
3. (b) Unfocused Chain



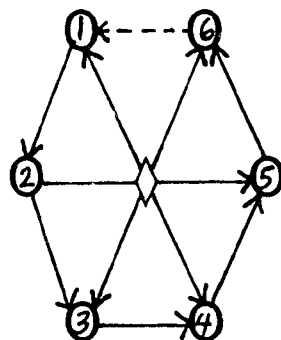
## 4. Focused Chain



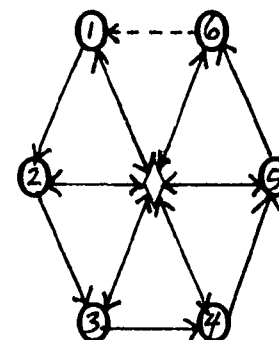
## 5. Perceptual Narrative



## 6. Experiential Narrative



## 7. Conceptual Narrative



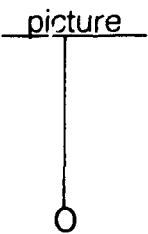
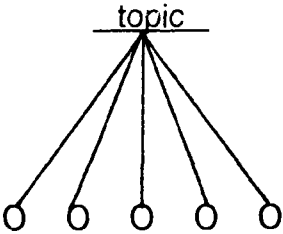
of stories produced by elementary school children aged five to ten. Their categories include:

- . descriptive sequence - statements that are related only to a central character, with no causal or temporal relationships;
- . action sequence - statements are related temporally;
- . reactive sequence - causal changes occur, with one sentence leading to another;
- . abbreviated episode - the behaviour of the main character is purposive, but not goal-directed;
- . complete episode - the character's goal is evident;
- . complex episode - elaboration of the previous category, more complex; and
- . interactive episode - goal within a goal, one story embedded within another.

More recently, Applebee's sequence has been revisited by Monaghan-Nourot and others (1988). These researchers, who used the dictated stories of four and five year old children, revised Applebee's developmental schema, claiming that chaining and centering can occur at the same developmental level. Table 2 outlines this classification system and corresponding structures.

In a similar fashion, Newkirk (1987) traced the development of non-narrative writing. In this schema, the label and lists are the basic structural forms. More complex forms develop as topic statements are elaborated. Using a modified Langer-Meyers coherence analysis (Langer, 1985), Newkirk analyzed the relationships between clausal units. Table 3 shows the text structure of Newkirk's non-narrative genres.

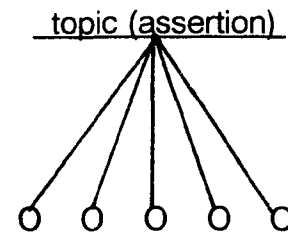
Table 3Categories and Structures of Children's Non-Narrative Writing (Newkirk, 1987)

| <u>Category</u>                                                                                                                                                                                       | <u>Structure</u>                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <p>1. Label</p> <ul style="list-style-type: none"> <li>- one word or one sentence</li> <li>identification of a picture</li> <li>- may also be a series of labels</li> </ul>                           |    |
| <p>2. List - Basic</p> <ul style="list-style-type: none"> <li>- a series of names, dates, facts. etc.</li> <li>- usually not in sentence form</li> </ul>                                              |  |
| <p>3. Attribute Series</p> <ul style="list-style-type: none"> <li>- a series of one-clause units that state facts or feelings about the topic</li> <li>- no logical or chronological order</li> </ul> |  |

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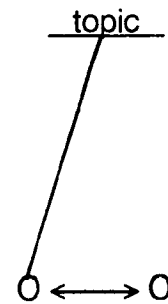
4. Reason List

-a series of statements which are reasons  
for a proposition or ways to do something.



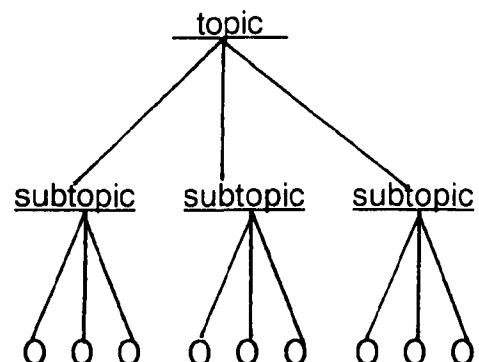
5. Couplet

- composed primarily of two-clause units,  
may include: identification + information,  
question + answer, statement + reason,  
statement + example.



6. Attribute Series - Hierarchical

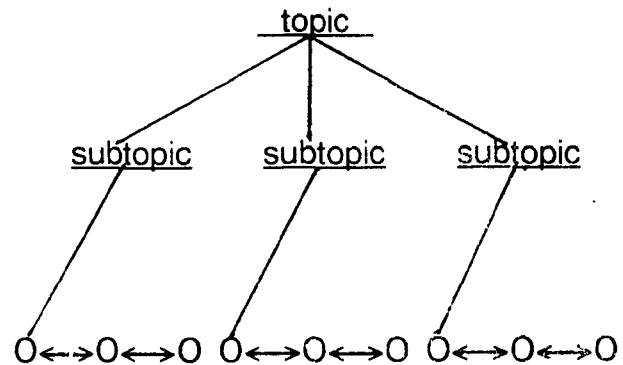
- individual statements are sorted into  
categories, but within categories,  
the majority are not ordered.



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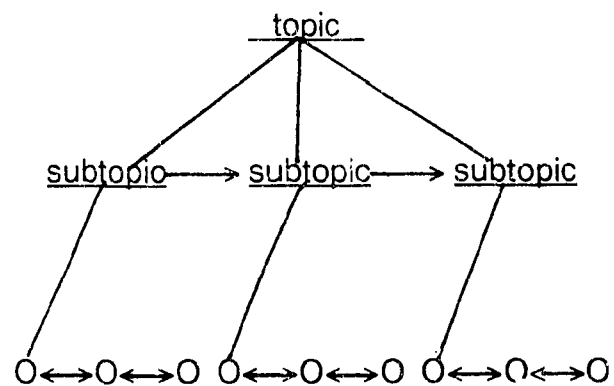
7. Paragraph - Basic

- three or more clausal statements that are coherently connected,
- the paragraphs themselves are in random order



8. Paragraph - Ordered

- paragraphs units are in a specific order and cannot be rearranged without a loss of meaning



Because different kinds of writing make different demands on the writer, there is often a wide range of structural complexity both among the compositions produced by children the same age and among the compositions produced by the same child within what would be considered the same moment of development (Gundlach, 1981; Perera, 1984). Thus it is preferable to refer to structural complexity rather than structural maturity in the description of children's writing (Gundlach, 1981).

Cohesion. Coherence in written language is achieved through reference (endophoric and exophoric pronouns, demonstratives, comparatives), substitution, ellipsis, conjunction, and lexical reiteration and collocation (Halliday & Hasan, 1976). In much of early writing, the composition is fused with the picture (Ninio & Bruner, 1976; Newkirk, 1982; Dyson, 1985; Calkins, 1986).

In many first-graders' compositions the writing does not occupy a distinct part of the page; it is part of a unified composition. In fact, students frequently use the words **write** and **draw** interchangeably. The embedded text might best be pictured as a central molecule bonded to several other elements of writing (Newkirk, 1982).

Thus, young children's writing contains a higher degree of exophoric (out-of-text) references than other types of cohesive relations (Halliday & Hasan, 1976; Moffett & Wagner, 1983; Rentel & King, 1983). The syntactic form "This is ....", a form that often follows the drawing of a picture (Dyson, 1989), is common in young children's writing (Bernhardt, 1986; Newkirk, 1987; Dyson, 1989).

"What children must learn about writing is that the text itself is the relevant environment for establishing all meaning relations" (King & Rentel, 1983). As children develop as writers, they acquire new strategies for signalling cohesive

ties (Michaels, 1981). Endophoric pronoun use increases as exophoric references decrease (Moningham-Nourrot et al., 1988). However, throughout the early years, a greater proportion of reference occurs than other types of cohesive relations and simple conjunctions occur with greater frequency than ellipsis and lexical cohesion (Halliday & Hasan, 1976; King & Rentel, 1981; Perera, 1984).

In this study of first grade writing, all of the children's writing will be classified into genres, both narrative and non-narrative forms. It will also include an examination of discourse structures and cohesive ties, especially exophoric reference.

### Syntax

Oral and written language have different syntactic structures. "The sentence is not a unit of typical spoken language. The sentence belongs to writing, forming there the basic unit of textual structures" (Kress, 1982). In this study, the sentence is the formal syntactic category used for analysis.

It was once thought that children's early written and oral syntactic patterns were not highly differentiated, (Pellegrino & Scopesi, 1978) and that early written sentences were less complex than spoken sentences (Vygotsky, 1962). These assumptions, based on the notion that oral language is comprised of sentences, are now considered misguided (Kress, 1982). Rather than comparing early written syntax to oral language, then, the structure of written sentences should be analyzed for its own sake.

Studies by Hunt (1965) and Evanechko, Ollila, & Armstrong (1974) have shown that written sentences increase both in length and complexity during the

course of development. Crowhurst and Piché (1979), caution that increased syntactic complexity should not be thought of in terms of “syntactic maturity”, since syntactic complexity varies the the functions of writing more than with chronological age.

Syntactic complexity varies substantially with the writing task. Factors found to affect syntactic complexity are topic, intended audience, and mode of discourse. Expository and argumentative writing are likely to be more syntactically complex than narrative writing. Different compositions by the same subject range widely on syntactic complexity scores even when writing tasks are similar (Crowhurst and Piché, 1979, p. 95).

LaBrant (1933, in Harris, 1986) theorized that development in writing increased in the gross length of the writing, in average sentence length, in proportion of dependent to independent clauses, and by complexity of sentence structure. However, Perera (1984) asserts that apart from clause length increase, there are only a few trends at the clause level that are known to be associated with development. She cites these as:

- . increased positioning of adverbials;
- . increased use of passive voice;
- . increased subject/verb agreement; and
- . decreased recapitulatory pronoun use.

She suggests that phrase structure gives clearer indications than clause structure in children’s early writing development. She notes that young children’s writing is marked by:

- . use of simple noun phrases;
- . preference for third person in their narrative writing;
- . use of simple, active verbs, and two- or three- word verb phrases;
- . compounding of sentences and coordination using “and” rather than

complex sentence structure utilizing subordinate conjunctions;

- . changing of tense within and between sentences;

Lindfors (1985) asserts that the syntactic component of children's writing includes knowledge of the relationships within sentences and how to express those relationships. She suggests that children construct this knowledge of written syntax along several dimensions:

- . nonverbal → verbal;
- . shorter → longer utterances;
- . "building blocks" (nouns/verbs only) → "ivy" (inclusion of prepositions, articles, and auxiliaries);
- . simple → complex structures (single propositions → embedded/conjoined);
- . coordination → subordination;
- . regular patterns → exceptional cases; and
- . more → less reliance on the immediate situation.

The present study provides the opportunity to reexamine the findings in the literature related to discourse level and sentence level structure, while describing the growth of another group of children as they learn to write. The influence of function on discourse-level form and the influence of discourse-level form on syntax will be observed.

### Orthography and Orthographic Development

Orthography refers to the visual representation of written language, including linearity, directionality, punctuation, capitalization and spelling (Clay, 1975). Although the traditional view of learning to write held that learning such orthographic knowledge was the accumulation of specific skills (Emig, 1981), the current paradigm is “emergent literacy”. Thus, the following review of children’s orthographic development begins with the concept of “emergent literacy”.

### Emergent Literacy

The term “emergent literacy” represents the development of writing from its early beginnings through the acquisition of conventional or standard forms, including convention as a function of context (Harste, Woodward, & Burke, 1984). The first use of the term “emergent” to describe children’s early development appears in Clay’s doctoral dissertation, Emergent Reading Behaviour. (1966). Teale (1987) argues that the word “emergent” suggests something in the process of becoming, continuity yet discontinuity, and the word “literacy” acknowledges the dynamic relationship between reading and writing. He goes on to state that the Piagetian concept of developmental stages is inadequate for describing literacy learning, since literacy is, above all, a cultural process, accomplished through active construction, which internalizes social action as well as independent exploration of written language.

The concept of emergent literacy refers not to a notion of “ages and stages” in the Piagetian sense, but rather to the refinement from pre-conventional to successively more accurate approximations of the conventions

of reading and writing (Holdaway, 1984). It is considered that even from a very early age, children form hypotheses about the nature of written language and its use (Harste, Woodward & Burke, 1984; Goodman, 1986; Teale & Sulzby, 1986). Ferreiro (1986), in her case study of two children, noted developmentally ordered hypotheses, with development not as a succession of accomplishments, but with many ups and downs. She also found that before children abandon an hypothesis (e.g., the syllabic hypothesis for the alphabetic principle) "children will struggle obstinately to keep the assimilation schemata they had so laboriously built up" (Ferreiro, 1985, p. 227). However, Donaldson (1978) and Holdaway (1984) suggest that errors may be a sign of progress in children's thinking.

Investigations into early writing from an emergent literacy perspective have been conducted in the preschool (Hiebert, 1978, 1981; Harste, Woodward & Burke, 1984; Schickedanz, 1978, 1987) and in the Kindergarten (Clay, 1975; Dyson, 1984, 1985, 1986, 1987, 1989; Sulzby, 1985, 1986) to investigate children's written products and to determine children's thinking about written language. Unfortunately, research in the area of emergent literacy has focused primarily on the period between the ages of two and five and usually stops with the Kindergarten year. "We cannot assume that written language learning is a school-related phenomenon, which, if properly 'motivated', begins when the child walks through the school's doors" (Harste, Woodward, & Burke, 1984, p. xvii). However, traditionally, the majority of first grade writing programs appear to have been formal in nature, with a sequenced, direct instruction skills-based approach towards writing, thus in first-grade, writing development has not been viewed as "emergent".

### Developmental Stages in Orthography

As early as 1898, Iredell noted the parallels between oral and literacy development. Gibson (1969) hypothesized that learning to write might involve attention first to the gross form or shape of written language rather than to individual letters, a development that would parallel the child's attention to the intonation patterns of language before separating out phonemes (Moskowitz, 1985). Lavine (1972) tested Gibson's hypothesis by investigating children's ability to differentiate writing from other graphic displays. Lavine's study supported Gibson's hypothesis concluding that children attend to linearity and variety (non-repetition of units) as distinguishing features of writing.

The Russian psycholinguist, Luria (1978), suggested a sequence in writing development as follows:

1. Preinstrumental Stage: undifferentiated scribbling writing is used in a purely imitative way;
2. Differentiation Stage: surface differentiation and the mark used as a sign-symbol; this causes the child to use signs intentionally;
3. Pictographic Stage: symbols used to remember thoughts, not represent reality;
4. Transition to Ideographic Writing: alphabetic symbols are introduced from without. Although the child learns to use these symbols to represent thoughts, he may not fully understand the symbolic purposes of writing.

A process of increasing differentiation is also evident in DeFord's (1980)

framework of developmental trends in writing:

1. scribbling;
2. differentiation between drawing and writing;
3. concepts of linearity, uniformity, inner complexity, symmetry, placement, left-to-right motion, and top to bottom directionality;
4. development of letters and letter-like shapes;
5. combinations of letters, possibly with spaces, indicating understanding of units (letters, words, sentences) but may not show letter/sound correspondence;
6. writing known isolated words - developing letter/sound correspondence;
7. writing simple sentences with use of invented spellings;
8. combining two or more sentences to express complete thoughts;
9. control of punctuation - periods, capitalization, use of upper and lower case letters;
10. form of discourse - stories, information material, letters, etc.

Dyson's case study of kindergarten children's writing (1985) shows similarities across children in development from scribble to letter-like to letter forms. All of the children began by writing their names. However, she found individual differences in intentions and ways of approaching writing. Her data also revealed that children can appear more or less skilled depending on which aspect of writing is considered in the "written language kaleidoscope". Since orthography operates at many levels, it is likely to appear inconsistent when examined at any one level (Read, 1983). Clay (1975) questions the notion of a fixed sequence for learning orthography, since children are learning on many

levels simultaneously .

Sulzby (1985) contends that there are six major categories of writing that are not developmentally ordered, but are logical divisions of the writing system:

1. writing via drawing;
2. writing via “scribbling”;
3. writing via letter-like forms;
4. writing via well-learned units;
5. writing via “invented spelling”;
6. writing via conventional orthography.

Sulzby's hypothesis is supported by Hipple (1985) and Gunderson and Shapiro (1988). In a study of kindergarten children's journal writing, Hipple (1985) noted that the evolution of written text was neither linear nor predictable. She illustrated this point with two examples: one child who began writing with invented spelling early in the school year stopped and returned to nontextual journal entries, returning again to invented spelling near the end of the year and moving rapidly into transitional spelling; another child who had produced only pictures with no printed text suddenly “leaped into print with invented spellings, bypassing the scribbling, random lettering, and labelling other children were engaged in” (p. 259). Similarly, Gunderson and Shapiro (1987, 1988) studied the writing of first grade children in “whole language classrooms”, which they defined as those classrooms which operated without a sequential, skill based reading series. They found that the first graders in the whole language classrooms they studied “who began the year producing strings of letters began very soon to produce text with invented spellings, internal spacing, and many conventional forms. Apparently these students did not follow the same

sequence for younger [preschool and kindergarten] children" (p. 431). Harste, Woodward, and Burke (1984) claim that "there are...no developmental stages to literacy but rather, only experience, and with it fine-tuning and continued orchestration" (p. x). They argue that "current yardsticks divert attention away from growth and toward 'developmental stages,' which attempt to calculate growth by marking surface level features of conventional form. Such a focus draws our attention away from the universals of written language literacy, which operate across language users at all ages and simply express themselves in a variety of alternative forms" (p. 12).

### Punctuation

The two major purposes of punctuation are segmentation and identification of units. Thus, in addition to periods, commas, and other punctuation marks, segmentation into words and capitalization are part of the punctuation system (Quirk & Greenbaum, 1973). Commas, colons, semi-colons, periods, and hyphens provide segmentation; capital letters, apostrophes and question marks provide identification; quotation marks both separate and identify (Quirk & Greenbaum, 1973). Punctuation also serves to mark off syntactic units and signal intonation (Quirk & Greenbaum, 1978). Smith (1982) asserts that punctuation is a support system, since it serves to provide visual marking of structures such as sentences that have already been defined by syntax. The research related to segmentation into words, punctuation marks, and capitalization will be reviewed.

Segmentation into words. Young children find it difficult to "impose a psychological segmentation on a stream of speech" (Templeton, 1980). They

are aware of sentences before they become aware of words (Piaget, 1959). Many young children beginning first grade do not understand what a word is nor do they recognize the function of spaces as determiners of word boundaries (Meltzer & Herse, 1969; Morris & Henderson, 1981). By the end of first grade, however, children are more able to determine word boundaries (Mickish, 1974). More recently, Milz (1983), in a study of first grade writing found that five sixths of her subjects basically controlled word boundaries on entering first grade, while the sixth subject developed control throughout the year. When de Goes and Martlew (1983) asked first grade children to explain why there were spaces between words, they found that the children had a fairly good understanding of segmentation's purpose: to keep the words from getting squashed or mixed up or to signal where one word started and another word began.

Children find it easier to isolate words that represent concrete ideas (for example, concrete nouns, action verbs) than those that represent abstract ideas, such as articles and prepositions (Holden & MacGinitie, 1972). When Ferreiro (1978) asked the young children in her study to write a sentence, she noted what she refers to as a "psychogenetic progression" in their writing, from the representation of concrete nouns to representing the entire utterance, as follows:

1. nouns;
2. the whole sentence attributed to one written segment;
3. the utterance cannot be separated into parts;
4. nouns independent, verb linked to whole sentence or predicate;
5. everything written but articles;
6. everything is written.

Some children take a long time to learn the value of spaces, and this difficulty is often more than just a problem of motor co-ordination. It is a complex mixture of knowing the word segments in the long statement, of knowing the function of the space in the written code, and of having the skill and co-ordination to produce the appropriate spatial record (Clay, 1975, p. 53).

Thus, changes in the way children make spaces in their writing, may be understood both as development of the concept of word and as the acquisition of a convention of print.

Punctuation marks. There has been a recent shift from the traditional focus on “mechanical errors” to a view of learning punctuation as a developmental process (Ferreiro & Teberosky, 1982). Ferreiro and Teberosky (1982) identified five stages in the process of distinguishing punctuation marks:

1. not distinguishing punctuation marks from letters or numbers;
2. identifying periods, colons, dashes and ellipsis marks as “not letters”;
3. distinguishing all punctuation marks except those that look like letters (e.g., the punctuation mark);
4. stating clearly that punctuation marks are not letters; and
5. attempting to label and assign functions to punctuation marks.

When de Goes and Martlew (1983) asked a group of first graders about punctuation marks, they found that the children’s conceptualizations were “very diffuse”. Most of the children thought the marks were not meant to be read like words, but they could not further define their purpose.

Children’s punctuation errors may be classified as errors of omission or of commission, placing marks where they don’t belong (Cazden, Cordeiro, & Giacobbe, 1985). At first, children are more likely to omit punctuation than use it (Milz 1983). When de Goes and Martlew (1983) asked first graders to copy,

the more visually salient marks like the quotation mark were copied most often. More than half of the children ignored periods and commas. Some punctuation errors derive from familiar speech habits, others from under- or overlearning punctuation rules (Danielewicz & Chafe, 1985). For example, apostrophes taught to show possession may be overgeneralized to plurals and verbs with [s] (Cordeiro, Giacobbe, & Cazden, 1983).

In GNYS AT WRK (1980), Bissex described her son's progress in punctuation during first grade. At first Paul used dots as segmentation between words, then extended this dot system to segment compound words, affixes, and sometimes syllables. Next, he used spacing between words with no punctuation. As he began to use punctuation marks, Bissex noted that he used parentheses, and colons as well as periods and overgeneralized the use of the apostrophe. Bissex also noticed that Paul seemed more interested in exclamation marks, colons and apostrophes (than periods) and used them most frequently.

As children learn to write, their punctuation becomes increasingly conventional (Bissex, 1980; Edelsky, 1983). Within a group of children, there can be wide differences in conventionalization. For example, in Milz's (1983) study of first grade writing, she found a proportion of conventional form ranging from 3 - 39% and different children used it in different ways. Cazden, Cordeiro, and Giacobbe (1985) propose the notion of "invented punctuation":

Children's errors (in terms of the conventional adult system) provide vivid externalizations of spontaneous concepts. In the case of invented spelling, the concepts are about English phonology; in the case of invented punctuation, they are about English syntax. We suggest that the groupings of words we call phrases or clauses are somehow represented in children's internal language structure as spontaneous

concepts in Vygotsky's sense, but that externalized evidence of that structural knowledge is apt to get overlooked in our attention to 'shaping' children's behavior to our own standard of correctness (p. 120).

Although instructional sequences usually suggest teaching the period as the first punctuation mark, period usage is more difficult to learn than some marks usually thought of as more difficult, such as apostrophes and quotation marks (Cordeiro, Giacobbe, & Cazden, 1983). Within one composition, these researchers often found correct period usage and errors of omission and commission (Cazden, Cordeiro & Giacobbe, 1983; 1985). Weaver (1982) found that children at different stages of development have different kinds of sentence fragments, the most frequent being explanatory clauses beginning with "because".

Patterns of period usage have been identified. Edelsky (1983) found that "early period placements were related to 'page-ness', line-ness', or 'word-ness' and often concerned separation; later period placements related to 'text-ness'" (Edelsky, 1983, p. 136). In an analysis of children's period errors, Cordeiro (1988) found seven categories of period usage:

- . intraword usage (the syllabic possibility: dino.saur) - rare;
- . interword usage (either on the line or floating in mid-space, as in:  
The.cat.ran.);
- . endline usage (period placement at the end of line without regard to syntax or semantics);
- . endpage usage (one period placed at the end of each page without regard for syntax or semantics);
- . phrase structure usage (isolation of syntactic and semantic phrases

and clauses from the rest of the sentence as in: I went downtown. to the store.);

- . correct usage; and
- . omitted usage (resulting in adjoined, or run-on sentences).

In addition to conventional punctuation marks, children often invent their own punctuation marks such as stars and double bars for punctuation (Edelsky, 1983). Sometimes they use what Cook-Gumperz and Gumperz (1981) refer to as “graphic stylistics” (thickened or enlarged letters, or letters with non-standard shapes) for semantic purposes such as emphasis or to create special effects (Calkins, 1980).

Capitalization. Very young children often write entirely in capital letters because the configuration is more easily recognized and remembered (Clay, 1975; Newman, 1984). As children gain more experience with reading and writing, however, lower case letters come to be used with increasing frequency (Clay, 1975; de Goes & Martlew, 1983). Edelsky (1983) saw a variety of patterns of unconventional capitalization, including their use to start certain words. In another study, investigating third and fourth grade writing, Wilde (1986) found that capitalization was comparable to spelling in how it was used.

### Spelling

It was once thought that in order to learn how to spell, children must simply learn letter-sound correspondences. Although spelling has a relationship to phonology, it is not a direct representation of it (Goodman, 1984). In addition to knowledge of phonemes, the young writer needs to acquire knowledge of graphemes, morphemes, common spelling patterns, spelling

“rules” and exceptions (Wilde, 1986). Learning to spell is now considered to be a process of rule construction and hypothesis testing. At first, these rules are overgeneralized, but eventually they are internalized in a mature form (Zutell, 1978; Forester, 1980). Other studies have indicated that different children “invent” very much the same system of spelling (Read, 1975; Chomsky, 1979). In investigating the non-standard spellings of a group of preschoolers who started to write without formal instruction, Read (1975) proposed that rather than learning to spell by memorizing, it seemed “more adequate to regard the spelling as based on a set of tacit hypotheses about phonetic relationships and sound-spelling correspondences, which the child was able to modify readily as he or she encountered new information about standard spelling” (Read, 1975, p. 30).

Children’s “invented” or non-standard spellings (Chomsky, 1971), provide us with evidence of how children construct their knowledge of the English spelling system (Read, 1975). In the late 1970’s, some researchers began to classify children’s invented spellings according to their possible reasons behind their production, rather than looking at such spellings as “incorrect” (Beers, 1980).

Many first graders can use initial and final consonants to write words (Giacobbe, 1981). Most consonants are spelled regularly (Read, 1975), with errors occurring mainly with blends, digraphs, and variant spellings (Cramer, 1976a, 1976b). Gill (1980) found that more ambiguous consonants tend to be spelled phonetically (for example, failing to double consonants [70% of the time], omitting silent letters [83% of the time], and making substitutions such as [s] for [c]. Preconsonantal nasals are usually omitted (Read, 1975; Beers &

Henderson, 1977; Ehri, 1985).

inventive spellers rarely spell vowels with consonants, and to begin with, they usually use a single vowel (Read, 1975). Many first graders (60%) spell lax vowels conventionally (Beers, Beers, & Grant, 1977). To spell tense vowels, a letter-name strategy is commonly used in first grade (Read, 1975; Beers, Beers, & Grant, 1977), but as children get older they use a wider variety of strategies (Beers, 1980), such as an overgeneralized final [e] rule for vowels (Cramer, 1976b) or unconventional digraphs spellings such as GAET for “gate” (Beers, Beers, & Grant, 1977). Most non-conventional vowel spellings have virtually vanished by the end of grade four (Beers, Beers, & Grant, 1977; Zutell, 1979, Wilde, 1986).

Gradually, invented spellings diminish, as spelling becomes increasingly conventional (Paul, 1976; Beers & Henderson, 1977; Chomsky, 1979; Temple, Nathan & Burris, 1982; Gentry, 1982; Milz, 1983). High frequency words are the earliest to become conventionalized (Beers, 1980; Beers, Beers, & Grant, 1977, 1981; Milz, 1983). In a study of third and fourth graders, Wilde (1986) found differences not only in how conventionally children spelled, but also in the types of invented spellings they produced. In a study of first grade writing, Milz (1983) found that her subjects began the year with a rather large proportion (61%) of conventionally spelled words. She observed growth in the emergence of increasingly conventionally spelled high frequency words and changes in the spellings of individual words.

There have been many attempts to identify developmental sequences in spelling. Paul (1976) identified four stages in kindergarten children’s writing: use of initial phoneme of a word only; use of first and final phonemes plus some

“long” (tense) vowels, representation of “short” (lax) vowels, and greater standardization of spelling. He noted that the children seemed to treat each word as a new problem to be solved rather than repeating previous spellings, until eventually standard spellings were used consistently for some words. Developmental sequences have been described in various ways. Henderson and Beers (1980) suggest a developmental sequence progressing from letter naming, consonant sounds, certain vowels, and movement towards conventional spelling. Similar developmental stages in spelling have been listed by Temple, Nathan and Burris, (1982) as: prephonemic, early phonemic, letter-name, transitional, and standard; while Gentry's (1982) list includes: precommunicative, semiphonetic, phonetic, transitional and correct.

“Bissex's orderly and thorough longitudinal case study [1980] remains the richest portrait we have of an individual child's writing development” (Gundlach, et al., 1985, p. 5). The data collected by Bissex (1980) of her son Paul's writing over the five years from ages five to ten demonstrates a progression from using letters to represent a general message rather than speech, to encoding speech, first by using a letter name strategy, to segmenting speech and attempting to represent each speech sound, to gradually more conventional spellings.

The present study aims to provide rich descriptions of particular first grade children's writing. It attempts to demonstrate orthographic changes in first grade writing, in particular, punctuation and spelling.

### Individual Differences

There is not a consensus about the notion of universality in writing development. Gundlach and others (1985) suggest that learning to write is not a uniform process, since writing encompasses social and personal uses (meaning-making and sharing), various levels of form, and cognitive processes as well as skills. Moreover, learning to write "is best understood as one thread in the narrative of an individual's life, not as a uniform process superimposed on the particulars of an individual's experiences" (Gundlach et al., 1985, p. 55).

Donnelly and Stevens (1980), Hiebert (1981), and Dyson (1985, 1989) all found substantial differences between children in development and style of writing. When Nelson (1981) reviewed the research on individual differences, she found that most children fall between the extremes of style. Furthermore, she noted that children may display different styles in different situations.

Learning to read and write in first grade is synonymous with success in that grade (DeStefano, 1984). However, since children enter first grade differing in background knowledge, interests and experiences and with varying abilities and styles of learning, while one may expect some similarities or developmental trends, one would not expect children to acquire written language in identical ways. The present study takes into consideration both personal and developmental characteristics in examining the development of writing in first grade, for as Bissex (1980, p. 111) contends:

when writing is viewed as a meaning-making and conveying process, not a skills exercise. ... We speak of starting with a child 'where he is,' which in one sense is not to assert an educational desideratum but an inescapable fact: there is no other place the child can start from. There are only other places the teacher [or researcher] can start from. (Bissex, 1980, p. 111).

### Summary

Children's early writing is best understood in the context of emergent literacy, a perspective that considers writing to develop concurrently and interrelatedly with oral language (Teale, 1986). Children's writing changes as a process of successive approximations to conventionalized or "adult" form (Holdaway, 1984). Thus, writing in first grade is continuous with development both before school and with subsequent school grades (Bissex, 1980).

Rich, descriptive studies of young children's writing from a perspective of emergent literacy have been conducted in the context of the home (Bissex, 1980; Taylor, 1983), the preschool (Ferreiro, 1978; Schickedanz, 1978, 1987), and the Kindergarten (Sulzby, 1986; Dyson, 1984, 1985, 1986, 1989). Much less research has focused on writing in first grade from this perspective, perhaps because the emphasis in first grade instruction has been the teaching of "basic skills".

The significance of function in young children's writing development is now being realized, for as Pinnell (1985) states:

The more they [children] use language the more they learn about the forms of language - the words and patterns - that will help them to accomplish their purposes. When we think about children learning language, we can apply the simple principle: form follows function (p. 58).

Oral and written language have different functions, with oral language focusing primarily on the interpersonal domain and written language primarily on the ideational (Halliday, 1973; Olson, 1977). Young children's writing is transitional, containing many features of oral language; a significant aspect of young children's writing development is the differentiation between oral and written

language functions (Torrance & Olson, 1981).

Ferreiro (1978), Luria (1978), and DeFord (1980) among others, have attempted to discover universality or patterns of literacy development paralleling the universal stages in oral language acquisition. Recent research suggests that although there are some similarities among children, writing varies in different contexts (Farr, 1985) and individual children differ in development (Donnelly & Stevens, 1980; Sulzby, 1985) and style (Nelson, 1981; Dyson, 1985, 1989).

A review of the literature on children's early writing indicates that research is needed to examine and describe first grade writing from an emergent literacy perspective, focusing on the "dual functional-structural nature of [written] language" (Scinto, 1986, p. 162). For

within the past decade our conception of the written language puzzle has changed dramatically. Acquiring written language has assumed all the complexity and intrigue of the acquisition of oral language. For coming to understand the written language symbol system appears to involve learning at several levels at once (Dyson, 1984a, p. 166).

Studies of young children's writing have looked primarily at the development of form and infrequently at function. Studies which examine the relationships between function and form and between various levels of form are rare. There is a need to investigate function-form relationships and to document the ways these relationships occur in first grade writing.

This study will examine first grade writing from an emergent writing/socio-psycholinguistic perspective, beginning with an analysis of the functions for which children write and the functional changes that occur throughout the first-grade year. It will examine the forms of writing in a "top-down" fashion (that is,

from the discourse level to the word level). It will also examine the relationships between function and form and between the various levels of form.

Classifications of function and of genre as available appear to be somewhat related, therefore, it is to be expected that analysis from a functional point of view and from a genre point of view may have similarities. Current extant models of function and genre are available and accepted by authorities in the field and they will be employed to determine what light they shed on the written products of the first grade children in this study.

The present study is intended to enable researchers to better understand first-grade writing from an emergent writing/socio-psycholinguistic perspective. It seeks to add information about the functions and forms of first grade writing and the ways in which first grade children orchestrate the language cueing systems as they learn to write. Findings are of interest to educational researchers as additions to the knowledge base in the field of early literacy. They are also of interest to educational practitioners in the development of research-based curricula and appropriate instructional practices.

## CHAPTER 3

### Research Design

Qualitative research designs require clearly defined theoretical assumptions and methodological assumptions and a set of data collection procedures (Bogdan & Biklen, 1982). This chapter outlines the methodological assumptions of this study, the setting, the subjects, and data collection and data analysis procedures.

#### Methodological Assumptions

Methodological assumptions of the study include:

1. Subjects should not be included in the study without their consent or, in the case of children, without the consent of their parents. Records, files, and other documents should not be examined or copied without permission (Walker, 1985).
2. No part of the study, from data collection to reporting of results should cause the subjects to be harmed (Walker, 1985). The researcher is responsible for confidentiality of the data collected in the course of the research; procedures should be undertaken to protect the identity of the subjects in the study (Walker, 1985).
3. Since the researcher benefits from the participation of subjects in the study, the subjects should have a fair return for their participation. "This can take the form of information; when children are the subjects of a study the information can be shared with their

parents who may choose to make it available to the subjects when they deem it an appropriate time" (Preece, 1985, p. 24).

4. The researcher needs to have a clear idea of a focus at the beginning of the study. However, the research method must allow for some flexibility in pursuing the research questions, providing subsequent changes are recorded and documented as well as the reasons for them (Guba, 1986).
5. The context of data generation and collection must be described as fully as possible (Harste, Burke & Woodward, 1983).
6. In naturalistic studies, sampling is purposeful/selective rather than representative/ random (Guba, 1986). Particular subjects are included because they are believed to facilitate the expansion of the developing theory (Bogdan & Biklen, 1982). Researchers should not attempt to categorize subjects as to level of understanding or development based on brief encounters or single samples (Hemming, 1987). In this study, subjects were selected to encompass developmental levels from advanced to delayed, as described by the teacher, in to ascertain whether or not changes that occur throughout first grade are limited to one developmental group or another, or across developmental levels. Over one hundred pieces of writing were used for each subject.
7. The categories used in analyzing the data must be derived from and grounded in the data itself (Harste, Burke Woodward, 1983) although it is acknowledged that a researcher has prior knowledge and belief systems which provide foci in analysis

(Clark & Florio, 1983). These theoretical assumptions should be acknowledged by the researcher.

8. When looking at the data as a whole, it is important to categorize it in some way that is true to the data as a whole, not just isolated bits (Mayher & Brause, 1984).
9. Case studies enable researchers to see individuals as individuals, and when several individuals are compared, commonalities and differences become apparent (Bissex, 1987). Case studies are highly selective accounts and any selection from life reduces its complexity and involves an interpretive point of view (Walker, 1985).
10. Case studies remain close to specifics and are context bound; they cannot make claims for generalized results; they provide a basis for generalizing TO other circumstances and situations, but generalizations cannot be made FROM particular studies to statements of a theoretical kind (Walker 1985).
11. A representative sampling of the raw data should be included in the report of the study and the entire data should be made available to other researchers upon request (LeCompte & Goetz, 1982).

7

### Setting

The subjects of this study were selected from a "whole language" classroom in which instruction is based on a socio-psycholinguistic view of language and language learning (Goodman et al., 1987). As Goodman and

others suggest, characteristics of the writing programme described by the teacher and observed by the researcher include:

1. writing occurred frequently;
2. children were encouraged to write for themselves without concern for adult standards of correctness;
3. there was no "scope and sequence" or hierarchically arranged sequence for writing "skills";
4. writing skills were taught in context;
5. the teacher modelled the writing process daily.

From the very beginning of the school year, the children in the classroom were viewed as meaning-makers and authors and were encouraged to write. Handwriting, spelling, punctuation and other orthographic features of written language were modelled, explained, learned and practised in context, throughout the school day. Literacy experiences described by the teacher (Reinhard, 1989) and observed on multiple occasions by the researcher include:

**"Morning News"** (a collaborative writing event through which the teacher records the children's ideas in print on the chalk board, modelling how ideas are recorded in written form);

**shared reading experiences** (using enlarged texts on charts or in "Big Books" to demonstrate the reading process and to provide reading practice in a collaborative, supportive manner);

**"Story Time"**, the reading of stories aloud to the children by the teacher,

to build the children's repertoires of stories and knowledge of written language;

**"Writing Workshop"**, which builds on "information exchanged during news time. Based on daily modelling of composing and spelling, children move to writing workshop ready to communicate by pictures, pretend writing, early writing with invented spelling, or more advanced writing that approximates standard spelling" (Reinhard, 1989, p. 1);

**"Reading and Writing Time"**, in which children pursue independently chosen activities involving reading or writing;

**"Author's Circle"**, which "gives children a chance to share their writing. Children sit in the 'author's' chair as they read their work to others. The audience will often comment on some part of the story or offer some positive advice on how to improve the writing" (Reinhard, 1989, page 2);

**"Book Time"**, providing children with an opportunity to read a self-selected book independently, followed by sharing time, in which children share something interesting from their independent reading.

Most of the writing in this classroom was unassigned. The teacher reported that all of the children integrated writing, for example, labels, signs, letters and plans, into their play activities. During "Writing Workshop" children were "invited", but never forced, to write. The only assigned writing was on "Project Day" which occurred once a week. On "Project Day" the children were requested to write about their project, describing what their project was and how it worked. The teacher described such writing as "scientific writing".

### Subjects

The subjects were selected, in consultation with the classroom teacher, to include three males and three females of varying writing development at the beginning of first grade: one male and one female considered by the teacher at the beginning of the school year to be at an advanced stage of writing development, one male and one female considered to be at an "average" stage of development, and one male and one female considered to be delayed in writing development. The teacher's judgment regarding the children's developmental levels was based upon assessment data collected by the teacher at the beginning of the school year (including observation during writing time, individual writing conferences, analysis of written products and performance on informal assessments such as a letter name knowledge task). The teacher utilized these data to make a judgment based on her knowledge of literacy development gained through professional reading and from her years of experience teaching young children.

No children were included who had known mental or physical handicaps, who were identified as gifted, or whose native language was not English. Subjects were selected purposefully to encompass a range of developmental levels from advanced to delayed to ascertain whether or not changes that occur in writing throughout first grade might be limited to one developmental group or another or occur across developmental levels. As well, an attempt was made to eliminate confounding factors such as mental and physical conditions considered to be beyond a "normal" range and possible interference of languages other than English. Figure 2 shows the

developmental levels and sexes of the subjects in this study. In subsequent tables, the subjects are referred to by the numbers shown in Figure 2.

Figure 2

Sex and Developmental Levels of Subjects

| Subject | Developmental Level |          |            |
|---------|---------------------|----------|------------|
|         | Advanced            | Average  | Delayed    |
| Boys    | 1. Matthew          | 2. Alan  | 3. Brandon |
| Girls   | 4. Caitlin          | 5. Janet | 6. Lindsey |

Matthew, considered by the teacher to be at an advanced stage of writing development at the beginning of first grade was 6 years, 6 months of age at the beginning of the school year. His mother was a piano teacher and bookkeeper, his father a printer. His mother stated that he would have seen his parents use writing related to their occupations, specifically his mother writing in lesson preparation and bookkeeping, and his father writing invoices, job quotes and

customer information. Matthew had one older brother, aged ten, who, according to his parents, had not involved Matthew in any writing activities, and a younger brother, aged five. According to his mother, he had started to show "some interest" in writing at about six years of age. His mother had shown him how to make the letters of the alphabet and had written words for him to copy. His mother reported in the questionnaire that "in the fall he constantly asked me how to spell words". Matthew had attended preschool. His special interests included soccer and baseball. Matthew's teacher described Matthew as a "perfectionist" who started writing slowly in the first few weeks of school. She felt that this was because he was very concerned with spelling correctly.

Alan, who was considered by the teacher to be at an average stage of development at the beginning of first grade, was 6 years, 4 months of age at the beginning of the school year. His parents, former teachers, owned a bookstore. They reported that Alan would have observed them writing at home: working with catalogues for ordering books, writing letters, and making advertising posters. In the questionnaire they reported that they did not teach Alan much in the way of writing, "other than standard spelling and proper letter formation because he tended to emulate his nine-year old brother's interests in games and sports and hadn't shown much desire to write before first grade". Alan had attended a cooperative preschool for two years and had been involved with "gym and swim" and library programs in the preschool years as well. During first grade, his interests included the outdoors/nature, soccer, T-ball, swimming and video games. Alan was described by the teacher as a "quiet, non-aggressive boy".

Brandon, considered by the teacher to be at a delayed stage of writing development at the beginning of first grade, was 6 years, 0 months of age at the beginning of the school year. His parents reported that at home, he would have observed his mother, a seamstress and quilter, making notes for clients' orders and occasionally typing and using the computer, and his father, a display technician at the provincial museum, writing lists of things to be done. Brandon was the youngest child in his household, with a sister (aged 11), a brother (aged 16), and two female cousins (ages 15 and 13). According to his parents, Brandon showed no interest in writing before he went to school. They reported that although the older children did not show Brandon much in the way of writing, they did show him how to draw, and his sister would "write under pictures for him occasionally". Brandon had attended preschool, summer recreation programs and summer camp. His interests in first grade included computer games, drawing, reading, and skateboarding. The teacher reported that in September Brandon did not know any of the letters in the alphabet and that at first he seemed reluctant to take the risks involved in learning to write. Yet, once he became "interested and motivated, he took off" in his writing.

Caitlin, considered by the teacher to be at an advanced stage of writing development at the beginning of first grade, was 6 years, 7 months of age at the beginning of the school year. Her parents (mother, an infant development consultant and homemaker, father, a correctional institute educator and carpenter, who was pursuing a Master's degree) demonstrated writing frequently in the home, for example, letter writing, report writing, and a variety of forms of writing related to university courses. They taught Caitlin, who became "somewhat interested in writing" at about the age of four, how to make upper

and lower case letters and how words are spelled. They also involved her in writing letter writing to "pen pals", relatives, and members of the family - Mom, Dad, a younger brother and a younger sister. Before school, Caitlin had attended a family daycare and preschool daycare centre, as well as swimming, dancing, and Suzuki piano lessons. In first grade she was involved in many activities, including T-ball, Brownies, swimming, piano and ballet lessons. She also liked to read, write, and draw at home. Caitlin was described by her teacher as "an aggressive learner" who was "not overly keen on correctness".

Janet, who was five years, 10 months old at the beginning of first grade, was considered by the teacher to be at an average stage of development. She lived with her mother, a secretary, and eight year old sister. Janet's mother stated that Janet had shown a lot of interest in writing from the age of three and a half years, when her elder sister went to Kindergarten. Her mother had shown Janet "some letters" (which her sister tried to "correct") and involved her in writing cards and letters to friends. Janet had attended play school and in first grade participated in Brownies, T-ball and music lessons. Her teacher reported that Janet knew how to make the letters of the alphabet at the beginning of first grade. From the very beginning of the school year Janet "had a lot to say" and had no difficulty reading back her own writing. The teacher indicated that she found Janet's writing "hard to read", but that "Janet did not seem to worry about other people being able to read her writing".

Lindsey, who was six years, 0 months old at the beginning of first grade, was considered by the teacher to be at a delayed stage of development. Lindsey's parents had recently separated, and although her mother gave permission for Lindsey to be included in the study, she declined to complete the

questionnaire requesting background information. Her teacher described Lindsey as a “shy little girl” who was reluctant to write much at the beginning of the year. The teacher indicated that she felt that this was primarily because of Lindsey’s family situation.

### Data Collection

Children’s written products can be classified as “performance samples”, that is, data falling midway on the continuum between tests and informal observations (Teale, Hiebert & Chittenden, 1987). Such writing samples provide a more systematic way of collecting information than observation techniques, yet they represent complex behaviours (Teale, 1987). Profiles develop as performance samples are collected over time. Since children’s written productions are concrete examples of what children can do in writing, they provide the focus of the study.

All of the subjects’ writing produced throughout the school year in the “Writing Workshop” provide the raw data for the study, revealing the children’s growth in writing over time. Since writing serves as an organizer of literacy behaviours (Clay, 1975), the hypotheses children generate about print and the strategies they use are revealed in their writing (Harste, Burke & Woodward, 1983; Newman, 1984). However, in examining young children’s writing, researchers must take into consideration that:

1. as a child writes, each word is a new problem to be solved and as such is reinvented (Read, 1975; Bissess, 1980);
2. when children gain a new insight into print, the new knowledge

may disorganize what the child already knows. It may appear that a child has regressed and that skills the child had under control at an earlier stage are forgotten (Luria, 1978; Klein, 1985);

3. because children are not as concerned with conventions as adults are, the problem of the moment may override other issues (Ferreiro, 1986; Schickedanz, 1987).

In this study data collection consisted mainly of accumulating children's written products produced during "Writing Workshop" time. This was supplemented with interviews with the teacher and questionnaires completed by the parents of the subjects.

All writing done by the children was collected by the classroom teacher immediately after it was written and accumulated in monthly files, commencing the first day of school in September and continuing through to the end of the study at the conclusion of the first-grade year. The children were not aware that they were participants in the study.

### Data Analysis

The writing was analyzed from function and form perspectives, beginning with function. Functional analysis was conducted to determine the children's purposes for writing. Analysis of form was divided into two parts, structure and orthography, with structure analyzed first. Structural analysis focused on identifying forms of discourse (or genres), structures of text, and sentence patterns. Orthographic analysis focused on punctuation (including segmentation, punctuation marks, and capitalization) and spelling. All function and form aspects of the writing were analyzed for similarities and differences

across children and for changes within the children's writing throughout the school year.

The corpus of writing samples was first photocopied, although some originals were retained (approximately five texts per subject, per month). Photocopies and originals were separated by subject, sequenced in order of production, and then typographically reproduced to replicate the children's texts as identically as possible (complete with spacing, line breaks, capitalization, punctuation and other marks, and invented spellings. These are hereafter referred to as "reproductions". The corpus of writing samples was then transcribed into conventional written English and are hereafter referred to as "transcripts". Much of the writing, particularly that which was written during the first few months of school, had been transcribed into conventional written English by the teacher at the time the writing was produced or very soon afterwards. In such cases, the teacher's transcriptions were used. Illegible items or those that could not be deciphered were assigned ( ) in the transcriptions. In some instances, only one word was not transcribed in a piece of writing, resulting in a sample which could be used for at least a partial analysis. In other instances, little of the text could be deciphered. Thus the transcriptions were rated as "unknown" and not incorporated into the analysis.

Transcriptions were used in the analysis of function (research questions 1 and 2) and structure (research questions 3, 4, and 5). Reproductions, photocopies and retained original productions were used in the orthographic analysis (research questions 6 and 7). Originals, photocopies, reproductions and transcriptions were all utilized in the analysis of function-form interrelationships (research questions 8 and 9).

In order to analyze trends between subjects and within individual subjects throughout the school year, the entire corpus of writing was divided first by month, and then into three approximately equal segments. These are hereafter referred to as “terms”:

Beginning (September to November),

Middle (December to February), and

End (March to June).

### Functional Analysis

Categories of analysis (research question 1a) were arrived at inductively. Insights from previous research literature on both oral and written language functions provided “potential conceptual levers” (Clark & Florio, 1983) to make sense of the data in this study. Various patterns of classification were used in an attempt to incorporate all of the data. Once the categories of analysis were established, each writing sample was coded for the functions represented. In many cases, more than one function was coded for a writing sample. To refine the analytical categories, the coding was repeated three separate times, without reference to earlier codings.

Function categories were tabulated for each subject per term (beginning, middle, and end), for and for the entire school year (research questions 1b and 2). Because many of the texts were coded with more than one function, inter-functional patterns were examined. As in Schachter’s study (1979) analyses were conducted to discover whether each function performed a primary role or secondary role in relation to other functions, and in what circumstances. In addition, each function category was analyzed in relation to the other categories to determine which functions tended to cluster together.

Formal indicators were examined in order to cross-validate the function categories. The analysis included an examination of pronoun, verb, adjective, and adverb use. In addition, the researcher reviewed the data for recurring syntactic patterns in the children's writing in the event that they might produce insight or confirmation of the functions assigned to each text.

Since functional analysis involves judgment, inter-rater reliability is a major concern. To establish inter-rater reliability, two raters were first trained on a selection of 25 pieces (transcriptions) from the corpus of writing samples. The training samples were selected to include the writing of all subjects, all function categories, a combination of unifunctional and multifunctional texts, primary and secondary functions, and distribution from September through June. Using the same selection criteria, a set of 50 pieces with 87 identified functions was derived from the corpus of writing samples. Independent ratings by the three raters produced an inter-rater reliability of 95%, with three of the four instances of disagreement due to functions being omitted by the two trained raters. This is a particularly high agreement because inter-rater reliabilities in the 70-80% range are acceptable in studies of function. As Schachter (1979) states:

Motives are notoriously difficult to measure, since scoring is partially dependent on a subjective judgment which endangers reliability....  
[Researchers] have generally been willing to settle for reliability in the 70-80% range of agreement in this domain of measurement (p. 49).

### Structural Analysis

A structural analysis was conducted in a "top-down" fashion, beginning with discourse-level analysis and followed by sentence-level analysis. Genres, structures of text and structural complexity were determined in an interactive, recursive process. The clause was selected as the unit for analysis rather than

the T-unit because clausal analysis can show relationships within T-units and can more finely identify the kind of coherence links the subject has used (Newkirk, 1987).

To answer research question 3, first, verb forms (active, attribution, and attitude) and temporal adverbials were identified, to sort the texts into two general categories, chronological and non-chronological. Chronological texts were classified loosely as narratives, and non-chronological texts as non-narrative. Next, individual clauses and connectives were identified. This provided a tentative assignment of genre to each text. Structural complexity was determined by examining the number of clauses in each piece of writing and the type of linkages between clauses. Determining structural complexity led to a re-examination of the genre codings and a refinement of the genre analysis (research questions 3a and 3b).

Sentence patterns (research question 3c) were identified inductively by considering the number of clauses, placement and type of noun phrases, verb phrases, adverbials, conjunctions and exophoric references.

Forms of discourse (Genres). Analytical categories for forms of discourse (research question 3a) were developed both from previous studies and from the data of this study. Each writing sample was classified first as chronological/narrative or non-chronological/non-narrative, based on the following criteria (Pera, 1984):

- |                      |                                                                                                                                                                                        |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>chronological</b> | <ul style="list-style-type: none"> <li>- action verbs,</li> <li>- usually past or future tense, rarely, present tense,</li> <li>- temporal connectives, (e.g., then, next),</li> </ul> |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- temporal adverbials, (e.g., yesterday, after school, in two days, at Christmas);
- non-chronological** - verbs of attribution (e.g., are, have, got) or of attitude (e.g., like, want),
- usually generalized present tense.

To answer research question 3b, both chronological and non-chronological texts were analyzed using a Langer-Meyers coherence analysis (Langer, 1985) modified by Newkirk (1987). Clause units were identified, then each piece of writing was diagrammed to show:

1. the relationship of individual clauses to preceding and following clauses;
2. the hierarchical structure of the text.

The diagram represented the hierarchical structure which showed the ways in which subjects related each clause unit to the topic and subtopics, thus providing an "x-ray" of each text (Newkirk, 1987). Linkages between clauses were classified as (a) random, (b) relational, or (c) chronological. Random clauses were those that could be rearranged without changing the meaning of the text. Relational links were those that could show any non-chronological relationship such as statement-attribute, statement-example, question-answer, or assertion-reason. In the event that a text coded as non-chronological had chronological linkages it was rejected from the non-chronological category, recoded as chronological and assigned the appropriate chronological genre.

A few of the non-chronological texts did not appear well suited to the coherence analysis, which led to re-examination of the data in an attempt to account for all of the texts. As a result, four new genres were identified: Word

Play, Note/Letter, Written Dialogue, and Picture Dialogue/Sound Effects, and. The texts in the first two categories were interactive in nature, having a high incidence of the pronoun “you”, implying a known audience. These two categories also contained elements of dialogue. Thus, identification of genres and structural complexity were established in an interactive process.

To establish reliability of the classification system, the researcher trained two raters on a selection of 25 pieces (transcriptions) from the corpus of writing samples. The training samples were selected to include all subjects and all genre categories, and to provide a distribution from September through June. Using the same selection criteria, a set of 50 pieces was derived from the corpus of writing samples. Independent ratings by the three raters, produced an inter-rater reliability of 90%. According to Mass and Plansky (1960, cited in Allen-Meares, 1984), an accepted level of reliability is in the high 70’s (75% or above). As with Newkirk’s study (1987), disagreements involved categories that were similar, for example: Recount/Narrative, Attribute Series/Hierarchical Attribute Series, Expanded Record/Recount, and Label/Basic Record.

Once the categories of analysis were established, each writing sample was coded for genre. Only one genre was assigned to each piece of writing. Each category was then tabulated for each subject per term (beginning, middle, and end), and for the entire school year.

Structural complexity. The structures of the various genres (research question 3b) were determined as part of the process of identifying the genres as described previously. Because some of the chronological genres had similar structures to non-chronological genres, structural complexity was examined from two perspectives: (1) clause length per text, and (2) patterns of links

between clause units.

Clause length per text was assessed by counting the number of clauses in each text. Next, mean clause length was determined for each subject for each term, (beginning, middle, and end), and for the school year. Relationships between the clauses were determined using the coherence analysis described previously. To determine complexity, texts were classified into categories based on the type of linkages found:

1. No clause units in the text, - no clause links;
2. Single clause units in the text, - no clause links;
3. Two or more clause units - not linked (random);
4. Two clause units - linked (logical or chronological);
5. Three or more clause units - centered (clustered);
6. Three or more clause units - chained (sequenced);
7. Three or more clause units - centered and chained.

Texts were encoded using these categories and counted for each subject for each term. Percentages were then calculated.

Sentence patterns. The entire corpus of writing was used for sentence analysis. Sentences were analyzed from two perspectives: sentence type and sentence pattern (research question 3c). Sentences were classified first into sentence type: simple sentence, compound sentence, complex sentence, and compound-complex sentence. At this time questions and imperatives were tallied as well. Percentages and means were calculated.

Sentence patterns were identified in two ways. First, the data was searched to identify common sentence beginnings. Through this process, three frequent sentence beginnings were identified: "This is ....", personal pronouns,

and temporal adverbials. Sentences with these three sentence beginnings were counted and percentages and means calculated for each subject and for the group for each of the three terms (beginning, middle, and end). Transcriptions of the texts were perused to find within-text sentence patterns and "sentence formulas" (clusters of sentences).

### Orthographic Analysis

An orthographic analysis was conducted first for punctuation, and then for spelling. The children's original texts, photocopies, and reproductions were used in the analysis, with frequent reference to the transcriptions to cross-check.

Punctuation. A punctuation analysis commenced with examining the reproductions for segmentation between words, first, to determine word boundaries and second, to map each reproduction with its transcription. Subsequently, the reproductions were examined to determine sentence boundaries and to match these boundaries with punctuation used by the child. Categories of segmentation were developed inductively. Reproduced texts were then coded for both word segmentation and sentence segmentation and each category was tabulated for each subject per term and for the school year.

Photocopies, reproductions and originals were examined for punctuation and other graphic marks. Categories of period and apostrophe usage were established inductively. Period usage was cross-checked with sentence segmentation categories. Texts were coded for punctuation marks and for period and apostrophe usage, and were then tabulated for each subject per term.

Reproductions were then examined for capital and lower case letters.

These were colour coded to enhance identification of patterns. Categories were established inductively. Finally, the texts were coded by capitalization category and categories were tabulated for each subject per term.

Spelling. Reproductions were used in the spelling analysis, with reference to transcriptions. First, the transcriptions were searched to identify words which were used by all the children. These words were then analyzed to determine which of the common phonemes were represented. Phonemes which were not represented in this body of words were identified and the data were searched to find examples of each phoneme in each child's writing, particularly those words which were used by more than one child. In addition, examples of words with two consonant clusters with [r] were identified. Next, the reproductions were examined to determine the children's spellings of each of the identified words. Each instance was recorded as spelled by each child.

An analysis was also conducted to determine changes in amount of conventional spelling from the beginning to the end of the year. To do this, the first twenty texts written by each child were coded as unknown/not decodable, partially decodable, and completely decodable. Transcriptions recorded by the teacher soon after the writing were a major resource. However, not all texts were transcribed at the time of writing. In such cases, to assist or verify decoding, reference was also made to the child's original text or photocopy to examine the pictures for clues. From each child's set of twenty texts standard and non-standard spellings were listed (35 - 96 words per child). To determine the degree of conventional spelling at the end of the year, each child's last twenty texts was coded as unknown/not decodable, partially decodable, and

completely decodable and the last 100 words written by each child were analyzed for standard and non-standard spellings.

### Analysis of Function-Form Interrelationships

In the analyses for function, structure and orthography, each analysis and coding was conducted separately. To examine interrelationships between function and the various types of form, the codings from the previous analyses (beginning with function) were placed in parallel columns next to each text (reproductions with transcriptions). Interrelationships were examined between (1) function and genre, (2) function and text structure, (3) function and syntax, and (4) function and sentence patterns. The data were also searched to determine if a relationship existed between function and orthography.

Function and genre. A matrix was made to reveal which genres were associated with the various functions. Subsequently, a frequency distribution was made to determine the frequency with which the various genres were associated with the different functions.

Function and text structure. A matrix was made to reveal which text structures were associated with which functions. As in the function by genre analysis, a frequency distribution was made to determine the frequency with which the various text structures were associated with the different functions. An analysis was also conducted to examine which functions were associated with the use of exophoric references.

Function and syntax. Texts within each function category were analyzed for verb type (e.g., verbs of action, attitude or attribution) and tense, pronoun use, adjectives, temporal adverbials, and subject complements.

Function and sentence patterns. The texts within each function category were analysed for recurring sentence patterns. A frequency distribution was made for the most frequent sentence patterns identified within each function. In the analysis of sentence patterns associated with the identifying function, a separate analysis was conducted to determine patterns of first and subsequent sentences in the texts.

Function and orthography. The texts within each function category were searched to reveal patterns or relationships between the various functions and punctuation and spelling. The analysis was intended to determine whether a relationship exists between function and orthography, with no reason to believe whether it does or does not.

## CHAPTER 4

### Functions of First Grade Writing

From an examination of the texts the researcher identified inductively a list of eleven functions served by the children's writing. The functions were identified as follows:

1. Self-aggrandizement (or Ego-enhancement),
2. Identifying:
  - a) possession,
  - b) labelling;
3. Expressing (emotion or attitude);
4. Interacting;
5. Informing;
6. Referring to Experience,
7. Anticipating or Predicting;
8. Imagining:
  - a) fiction,
  - b) fantasy;
9. Practicing;
10. Reasoning; and
11. Representing
  - a) oral language,
  - b) written language.

The functions are not discrete categories nor independent of each other. Many of the children's texts were found to serve a variety of functions simultaneously. Function categories are described in Table 4. Table 5 provides function markers and examples.

### Distribution of Functions

Eight of the eleven functions were observed in the writing of all the children: Self-aggrandizement, Identifying, Expressing, Informing, Referring to Experience, Anticipating/Predicting, Imagining, and Representing. Five functions accounted for the bulk of the writing, listed in order of frequency: Identifying (occurring in 43.3% of texts), Referring to Experience (29.9% of texts), Imagining (25.8% of texts), Anticipating/ Predicting (21.9% of texts), and Expressing (17.9% of texts). Interacting was observed in the girls' writing, but not the boys'. Reasoning, occurring in the writing of only four children, was the least frequently observed function (occurring in 1.4% of texts). Table 6 summarizes the functions found for each subject.

### Inter-functional Relationships

In many cases, a piece of writing served more than one function. Table 7 summarizes the associations between the functions. An analysis of the relationships between the functions indicates that in some cases when more than one function was encoded, one function performed in dominant role and the other(s) in a secondary or supporting role. For example, although informing operated as an independent function for most of the children, in the latter part of the year, Matthew wrote to inform as a support or elaboration in referring to

Table 4

Functions Served by the Children's Writing in this Study

| Function                                        | Purpose                                                                                                                          |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 1. SELF-AGGRANDIZEMENT<br>(Ego Enhancement)     | to illustrate one's competence and independence,<br>to impress, or to display knowledge,<br>to announce successes or "can do's"; |
| 2. IDENTIFYING<br>a) possession<br>b) labelling | to identify or name:<br>- ownership, including authorship of the text and/or picture,<br>- a picture or parts of a picture;      |
| 3. EXPRESSING                                   | to express emotions, attitudes, or opinions;                                                                                     |
| 4. INTERACTING                                  | to establish, and/or maintain social relationships,<br>to participate or respond,<br>to invite participation or response;        |
| 5. INFORMING                                    | to provide or convey information, evidence, or facts;                                                                            |
| 6. REFERRING TO EXPERIENCE                      | to record or report past or present experiences, incidents, or sequences of events;                                              |
| 7. ANTICIPATING/PREDICTING                      | to anticipate future events,<br>to predict what might happen;                                                                    |

| Function            | Purpose                                                                                                                                                                        |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8. IMAGINING        | to develop an imaginary situation which:                                                                                                                                       |
| a) fiction          | - could be true, but is not, with true-to-life or real characters,                                                                                                             |
| b) fantasy          | - could not be true, with characters which do not or could not exist, e.g., magical characters;                                                                                |
| 9. PRACTICING       | to learn how written language works,<br>to list known elements, e.g., letters of the alphabet, known words,<br>to copy texts or elements of text in the classroom environment; |
| 10. REASONING       | to explain a process,<br>to justify judgments,<br>to reflect on events,<br>to draw conclusions;                                                                                |
| 11. REPRESENTING    | to represent in written form:                                                                                                                                                  |
| a) oral language    | - direct speech, including direct quotations in a text, "balloon speech" in pictures,                                                                                          |
| b) written language | - familiar songs and poems;<br>- environmental signs, including signs incorporated in pictures.                                                                                |

Table 5

Function Markers and Examples

| Markers                                                                                                                                                                                                                                            | Examples                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. SELF-AGGRANDIZEMENT</p> <p><u>Pronouns</u>: I, myself;<br/> <u>Verbs</u>: can, wrote, got, found out, taught;<br/> <u>Patterns</u>: list of known words or letters.</p>                                                                      | <p>I can read "Ten Apples Up On Top".</p> <p>A B C D E</p>                                                                                                                                  |
| <p>2. IDENTIFYING</p> <p><u>Pronouns</u>: Exophoric, e.g., this, that, these, there;<br/> <u>Verbs</u>: to be (is, was).<br/> <u>Other</u>: arrows to picture;<br/> <u>Patterns</u>:<br/> - This is ....<br/> - Once upon a time there was....</p> | <p>This is a rainbow land.</p> <p>Once upon a time there was a sky with no clouds in it.</p> <p>Tooth → Gary → Dad →</p>                                                                    |
| <p>3. EXPRESSING</p> <p><u>Pronouns</u>: I, we;<br/> <u>Verbs</u>: like, love, miss, hope, wish, hate, can't wait;<br/> <u>Adjectives</u>: happy, sad, nervous, hurt, good, best, favourite, funny, cool, neat, pretty, beautiful.</p>             | <p>I like playing soccer and I like playing football with my friends.</p> <p>Next week it is my first game of T-ball. <u>I am so nervous.</u></p> <p>I think the princess is beautiful.</p> |

| Markers                                                                                                                                                                                                                       | Examples                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <p>4. INTERACTING</p> <p><u>Pronouns</u>: you, your;</p> <p><u>Prepositions</u>: to, from;</p> <p><u>Patterns</u>:</p> <ul style="list-style-type: none"> <li>- Questions,</li> <li>- Replies to questions.</li> </ul>        | <p>Let's see if you can make it out of the maze.</p> <p>To Mom and Dad, love Caitlin</p> <p>Do you want to play with me?</p> <p>Yes</p> |
| <p>5. INFORMING</p> <p><u>Pronouns</u>: I, he, she, it, they;</p> <p><u>Verbs</u>: generalized present tense, especially to be; sometimes generalized past tense.</p>                                                         | <p>My mom is always teaching piano.</p> <p>It was a picture about a Canada guy kicking the ball.</p>                                    |
| <p>6. REFERRING TO EXPERIENCE</p> <p><u>Pronouns</u>: I, we;</p> <p><u>Verbs</u>: usually past tense action verbs;</p> <p><u>Other</u>: temporal adverbials, especially yesterday, today.</p>                                 | <p>Yesterday we made stone soup.</p> <p>Today we are going to eat it.</p> <p>Today it is raining.</p> <p>I watched TV last night.</p>   |
| <p>7. ANTICIPATING/PREDICTING</p> <p><u>Pronouns</u>: I, we;</p> <p><u>Verbs</u>: future tense, especially going plus infinitive; might, may;</p> <p><u>Other</u>: temporal adverbials, especially tomorrow, in (n) days.</p> | <p>I am going to be Cindy Lauper for Hallowe'en.</p> <p>In 5 more days I'm going to Disneyland.</p>                                     |

| Markers                                                                                                                                                                                     | Examples                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>8. IMAGINING</p> <p><u>Pronouns</u>: he, she, they;<br/> <u>Verbs</u>: present tense (in label form), past tense (in narrative form);<br/> <u>Other</u>: characters, possible worlds</p> | <p>This is War Land. If anyone even touched War Land they would get into a war.</p> <p>Long long ago there was a ghost. It was a nice ghost. But it was hungry, so I fed it. And then I got hungry, so it fed me. We made friends. We went to the park.</p> |
| <p>9. PRACTICING</p> <p>Listing letters and words;<br/> Experimenting with letters and words;<br/> Copying.</p>                                                                             | <p>Janet Erin<br/> This is This is</p> <p>We can hear Ghostbuster music today.</p>                                                                                                                                                                          |
| <p>10. REASONING</p> <p>Explaining, reflecting on events, drawing conclusions.</p>                                                                                                          | <p>At that soccer game a Mexican guy kicked a Canadian guy for nothing. The Canadian team won by one point. Some of the Mexican guys pretended that they were hurt because Canada was winning.</p>                                                          |
| <p>11. REPRESENTING</p> <p>Speech in text and in pictures;</p> <p>Familiar verses;</p> <p>Signs in pictures.</p>                                                                            | <p>"Come quickly. The moon is in the lake." "Coming!"</p> <p>Roses are red, lilacs are blue, honey is sweet, and so are you.</p> <p>Keep Out Do Not Destroy</p>                                                                                             |

Table 6

Distribution of Functions

|     |                         | Subject |   |   |   |   |   | Percent * |
|-----|-------------------------|---------|---|---|---|---|---|-----------|
|     |                         | 1       | 2 | 3 | 4 | 5 | 6 |           |
| 1.  | Self- Aggrandizement    | X       | X | X | X | X | X | 3.4%      |
| 2.  | Identifying             | X       | X | X | X | X | X | 43.3%     |
| 3.  | Expressing              | X       | X | X | X | X | X | 17.9%     |
| 4.  | Interacting             | 0       | 0 | 0 | X | X | X | 4.7%      |
| 5.  | Informing               | X       | X | X | X | X | X | 7.1%      |
| 6.  | Referring to Experience | X       | X | X | X | X | X | 29.9%     |
| 7.  | Anticipating/Predicting | X       | X | X | X | X | X | 21.9%     |
| 8.  | Imagining               | X       | X | X | X | X | X | 25.8%     |
| 9.  | Practicing              | X       | X | X | 0 | X | X | 2.3%      |
| 10. | Reasoning               | X       | 0 | X | X | X | 0 | 1.4%      |
| 11. | Representing            | X       | X | X | X | X | X | 7.0%      |
| 12. | Unknown/not decodable   | X       | X | X | 0 | X | X | 4.6%      |

X    Occurred                      0       Did not occur

\*    Expressed as percent of texts. Because texts may have >1 function, the total of percentages exceeds 100%.

experience. In such instances, the primary role was ascribed to the dominant function and the secondary role to the supporting function. At other times, for example when Identifying and Imagining were both coded for a piece, it was difficult to distinguish which function was dominant. In these cases, both functions were coded as primary.

### Associated Functions

In the following examples, two functions were encoded for each piece of writing, with primary roles ascribed to both. The two most strongly associated functions observed in the subjects' writing, Imagining and Identifying, are shown in the first example, which illustrates what Dyson (1986a) refers to as young children's "symbol weaving", the creation of ideas through the interplay of drawing and writing. Referring to Experience and Anticipating/ Predicting, another frequent pairing of functions, is illustrated in the second example. The written dialogue shown in the third example is both interactive and representative ("talk written down").

### Examples:

#### 1. Identifying and Imagining

This is Wolfman. He destroys anybody who comes near him. His name is Frankenstein. He lives on the rocks.

#### 2. Referring to Experience (underlined) and Anticipating/Predicting (double underlined)

Last Friday I lost my blue and white soccer ball. Today after school  
I'm going to get another soccer ball exactly like that other one.

Table 7  
Inter-functional Relationships

| Function                                                                                                                                                                                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|----|----|
| 1. Self-Aggrandizement (S)                                                                                                                                                                              | 0 |   |   |   |   |   |   |   |   |    |    |
| 2. Identifying (B +, E -)                                                                                                                                                                               | 0 | X |   |   |   |   |   |   |   |    |    |
| 3. Expressing (-)                                                                                                                                                                                       | 0 | x | x |   |   |   |   |   |   |    |    |
| 4. Interacting (+)                                                                                                                                                                                      | 0 | x | x | x |   |   |   |   |   |    |    |
| 5. Informing (-)                                                                                                                                                                                        | x | 0 | x | x | x |   |   |   |   |    |    |
| 6. Referring to Experience (P)                                                                                                                                                                          | x | x | X | x | x | X |   |   |   |    |    |
| 7. Anticipating/Predicting (+)                                                                                                                                                                          | x | x | X | x | x | X | X |   |   |    |    |
| 8. Imagining (+)                                                                                                                                                                                        | x | X | x | x | 0 | x | x | x |   |    |    |
| 9. Practicing (+)                                                                                                                                                                                       | x | 0 | 0 | 0 | 0 | 0 | x | 0 | x |    |    |
| 10. Reasoning (S)                                                                                                                                                                                       | 0 | x | x | x | x | x | x | x | 0 | 0  |    |
| 11. Representing (-)                                                                                                                                                                                    | 0 | x | x | x | 0 | x | x | X | 0 | 0  | x  |
| 0 Not observed      x Observed (some, but not all, children)      X Observed (all children)<br>(P) Primary function only    (S) Secondary function only    (+) Usually primary    (-) Usually secondary |   |   |   |   |   |   |   |   |   |    |    |

### 3. Interacting and Representing (written conversation)

LINDSEY: Do you want to play with me today?

CAITLIN: Yes

LINDSEY: Do you really want to play with me?

CAITLIN: Yes

LINDSEY: Do you really want to play with me?

CAITLIN: No

LINDSEY: Do you like me?

CAITLIN: Yes

LINDSEY: Did you go to the tea party?

CAITLIN: No

#### Primary and Secondary Functions

Both primary and secondary roles (Schachter, 1979) were noted for eight of the eleven function categories. Referring to Experience was observed only in a primary role, while Self-aggrandizement and Reasoning were found only to occur in a secondary role. Interacting, Anticipating/Predicting, Imagining and Practicing occurred most frequently in primary roles, but Expressing, Informing, and Representing performed mainly secondary roles in the children's writing. During the first part of the school year, Identifying operated most frequently in a primary role. However, during the latter part of the year, Identifying operated more frequently in a secondary role.

Examples:

1. Primary role: Identifying (underlined)

Secondary role: Expressing (double underlined)

This is a haunted castle. I like it. It's neat.

2. Primary role: Referring to Experience (underlined)

Secondary roles: Expressing and Identifying (double underline)

We got T-shirts at school. I like them. They are nice.

Dad → Mom → Caitlin → Jim → Eve → Al → J-P →

(The names are written above the people in the picture, with arrows pointing from each name to a person in the picture.)

3. Primary Role: Referring to Experience (underlined)

Secondary role: Informing (double underlined)

Yesterday after school Emily and Muriel came to my house. Muriel is a cousin of me and my brother. Muriel is a one and a half year old baby.

### Changes in Distribution of Functions

Changes were noted in the distribution of functions between the beginning, middle, and end time segments. Table 8 summarizes these changes. Ten of the eleven identified functions (all except Reasoning) were observed in the children's writing during the first term. Identifying and Practicing functions were observed more frequently in the early part of the school year, with a decrease after the first few months of school. Five functions: Expressing, Informing, Referring to Experience, Anticipating/Predicting and Representing increased for the group as the school year progressed, while both Imagining and Reasoning increased in the second term and decreased in the last term.

Table 8

Frequency Distribution of Functions, Beginning, Middle, and End of Year

|     | Percent *               | September<br>- November | December<br>- February | March<br>- June | $\bar{X}$ |
|-----|-------------------------|-------------------------|------------------------|-----------------|-----------|
| 1.  | Self-aggrandizement     | 3.7                     | 3.1                    | 3.4             | 3.4       |
| 2.  | Identifying             | 47.2                    | 42.9                   | 38.6            | 43.3      |
| 3.  | Expressing              | 3.3                     | 13.8                   | 41.5            | 17.9      |
| 4.  | Interacting             | 5.2                     | 4.5                    | 4.3             | 4.7       |
| 5.  | Informing               | 3.7                     | 6.3                    | 12.6            | 7.1       |
| 6.  | Referring to Experience | 19.2                    | 33.0                   | 40.6            | 29.9      |
| 7.  | Anticipating/Predicting | 8.5                     | 30.4                   | 30.4            | 21.9      |
| 8.  | Imagining               | 12.9                    | 31.7                   | 10.7            | 25.8      |
| 9.  | Practicing              | 5.5                     | 0.4                    | 0               | 2.3       |
| 10. | Reasoning               | 0                       | 3.1                    | 1.4             | 1.04      |
| 11. | Representing            | 3.7                     | 4.9                    | 13.5            | 7.0       |
| 12. | Unknown/not decodable   | 11.4                    | 0.5                    | 0               | 4.6       |
|     | Unifunctional           | 67.9                    | 45.5                   | 22.7            | 47.6      |
|     | Multifunctional         | 20.7                    | 54.0                   | 77.2            | 47.9      |

\* Expressed as percent of texts. Because texts may have >1 function, the total of percentages exceeds 100%.

Self-aggrandizement and Interacting remained fairly constant. For those functions occurring infrequently (in less than 10% of the children's texts: Self-aggrandizement, Interacting, Informing, Practicing, Reasoning, and Representing) it is not possible to draw valid conclusions from the trends in these particular functions.

Identifying, the most frequently observed function overall, appeared in almost half of the children's texts in the first term and approximately 40% during the last two terms. During the second term, Referring to Experience occurred in about one third of the texts, increasing in frequency in the last term to become the most common function. As the school year progressed, functions other than identifying became more frequent, diminishing the occurrence of the Identifying function.

There was a trend from unifunctional to multifunctional writing. Most of the early writing served a single purpose. During mid-year, transition towards multifunctionalism is indicated, with multifunctional writing occurring slightly more frequently than unifunctional writing. During the final term, over three quarters of the children's texts were multifunctional in nature.

### Individual Differences in Function

Individual differences were found between subjects in relation to the functions their writing served. In this section, I will describe each child's writing from a functional perspective. This will be followed by an examination of the similarities and differences in function among the children as they learned to write. Individual differences in function are summarized in Table 9.

Table 9

Frequency Distribution of Functions Across Subjects

| Percent (frequency) |                         | Subject |      |      |      |      |      | $\bar{X}$ |
|---------------------|-------------------------|---------|------|------|------|------|------|-----------|
|                     |                         | 1       | 2    | 3    | 4    | 5    | 6    |           |
| 1.                  | Self-aggrandizement     | 5.9     | 2.9  | 4.7  | 1.8  | 3.1  | 1.8  | 3.4       |
| 2.                  | Identifying             | 17.0    | 21.2 | 51.9 | 67.3 | 29.8 | 78.8 | 43.3      |
| 3.                  | Expressing              | 18.5    | 17.3 | 3.8  | 23.0 | 15.3 | 29.2 | 17.9      |
| 4.                  | Interacting             | 0       | 0    | 0    | 14.2 | 1.5  | 13.3 | 4.7       |
| 5.                  | Informing               | 15.6    | 7.7  | 4.7  | 7.1  | 5.3  | 0.9  | 7.1       |
| 6.                  | Referring to Experience | 50.4    | 40.4 | 20.8 | 19.5 | 37.4 | 6.2  | 29.9      |
| 7.                  | Anticipating/Predicting | 35.6    | 26.0 | 17.0 | 18.6 | 19.8 | 12.4 | 21.9      |
| 8.                  | Imagining               | 11.1    | 17.3 | 42.5 | 38.1 | 22.9 | 26.5 | 25.8      |
| 9.                  | Practicing              | 1.5     | 2.9  | 2.8  | 0    | 3.8  | 2.7  | 2.3       |
| 10.                 | Reasoning               | 2.2     | 0    | .9   | 2.7  | 2.3  | 0    | 1.4       |
| 11.                 | Representing            | .7      | 1.9  | 10.4 | 10.6 | 10.7 | 8.0  | 7.0       |
| 12.                 | Unknown/not decodable   | 4.4     | 6.7  | 3.8  | 0    | 10.7 | .9   | 4.6       |
| Unitfunctional      |                         | 52.6    | 56.7 | 43.4 | 34.5 | 47.3 | 50.4 | 47.6      |
| Multifunctional     |                         | 43.0    | 36.5 | 52.8 | 65.5 | 42.0 | 48.7 | 47.9      |

Expressed at percent of subject's texts. Because texts may have >1 function, the total of percentages exceeds 100%.

From a functional perspective, the most salient feature of Matthew's writing was the degree to which his writing was aimed at Referring to Experience, and to a lesser extent, Anticipating/Predicting (referring to possible future experiences). Although, like the other children, most of Matthew's early texts involved mainly Identifying and Imagining, by the beginning of November, Matthew wrote almost exclusively to refer to his own experiences (past and possible future). Identifying and Imagining, which usually occurred together in Matthew's writing, were observed in very few texts, and after the first term, Identifying/Imagining were interpolated into a text which mainly referred either to past experiences or anticipated future ones. Thus, Identifying/Imagining were not related to the rest of the text. The following example illustrates this aspect of Matthew's writing (interpolated Identifying /Imagining is underlined):

Yesterday I ordered a hot dog. Today I brang the money. Today afternoon we are going to get the hot dog. This is a space ship.

Matthew wrote only two imaginative texts of more than two sentences in length, the longest of which was his last piece (unfinished) which was written in June:

#### The Adventures of David Matthews

Once upon a time there was a boy. The boy was very smart. One day he decided to dig in the forest, so he did. He did not know what he was going to find there. But he did not find anything so he dug some more. Then he decided to go in. So he went in. It was very spooky! He tried to get out but he could not. He could tell that someone was holding on to his legs. The man was DRACULA!! Dracula did not let go. David struggled. . . . (unfinished)

Like the other boys, Matthew did not use his writing for the purpose of interacting. Unlike most of the children, he produced only one instance of Representing oral language, which occurred in the text alone. Matthew drew few pictures after the first term, and was the only child who never integrated writing into any of his pictures. The following piece (the first of two longer imaginative texts) is Matthew's only attempt to represent speech in his writing. It was written in March, as a response to a teaching strategy called "memorable prose" developed by Michael Rosen.

#### I Have the Flu

I am sick. I have the flu. I see the top of my bunk bed. I feel that I am going to throw up. I can't go to school. "Mommy I am sick." "I'll read you a book."

Thus, from a functional perspective, Matthew's writing was unique in this group of children. His writing made reference to his experiences rather than his imagination. And in comparison, he wrote at least twice as often to provide information (about himself, his family and friends) than the other children. The topics of his writing stemmed from his social world, yet his writing was not socially oriented.

The functional profile emerging from Alan's writing is similar to Matthew's, but less extreme. Like Matthew, Alan, wrote more frequently to refer to his experiences than for any other purpose, and Anticipating/Predicting was the second most frequent function identified in Alan's writing. In comparison to Matthew, however, Alan wrote to identify and to imagine more frequently, yet still far less frequently than the other four children. Yet by the

middle term, his imaginative texts were quite elaborate, as the following example shows:

Far, far away in another galaxy a rocket has been lost. No one has ever found it. The rocket crashed in Bloodland. Everything is blood. The people are blood. The astronauts were running out of the fire. They went out of the rocket. They got chased by the blood people. They got blood on their feet. (February 4)

Like Matthew, Alan wrote a piece of imaginative writing in response to a “memorable prose” strategy used by the teacher:

I am sick today. And my tummy is sore. I am going to throw up. I have a back ache. I called my Mom and she wasn't home. i have an ear ache. I feel my cat sit on my hand. I hear my cat purr rrr. Both of my legs are broken. Both of my arms are broken. I have a broken neck. I have a broken nose. I have a broken ear. I call my Dad and so I went to the doctor. I am very sick. I am history.

Of the eleven functions identified in this study, nine were observed in Alan's writing. Functions not observed in Alan's writing were Interacting and Reasoning. Thus, even though fewer functions were observed in Alan's writing than the other children (nine functions in all), for Alan, writing served a variety of purposes.

All of the functions except Interacting were identified in Brandon's writing. The functions most frequently observed in Brandon's writing were Identifying (51.9%) and Imagining (40.4%). In comparison to the other boys, these two functions served by his writing were more than twice as frequent. As well, of the three boys, his was the most frequent use of writing to represent oral language. This he did both in text and picture, as shown in Figure 3. The transcription of

Figure 3

Brandon's Army Ants

a our Lord  
 a AR meeAnt 'Sad Y are We  
 Fodeing? Not to The  
 AR meeAnts not <sup>he</sup> wet He was  
 taking a lot the ArmeAnt  
 as to be Fns,



Figure 3 is as follows:

At Your Leader

An army ant said, "Why are we fighting?"  
None of the army ants knew what he was talking about.  
The army ants decided to be friends.

IN PICTURE: Why are we fighting?    Hah    Yahoo

Figure 4 shows Brandon's representation of written language in the form of signs, the only instance of this function observed in this study. A transcription of this text follows:

This is a rock. It is haunted. It has bad words on it.

IN PICTURE: Keep Out    Beware    Go Away

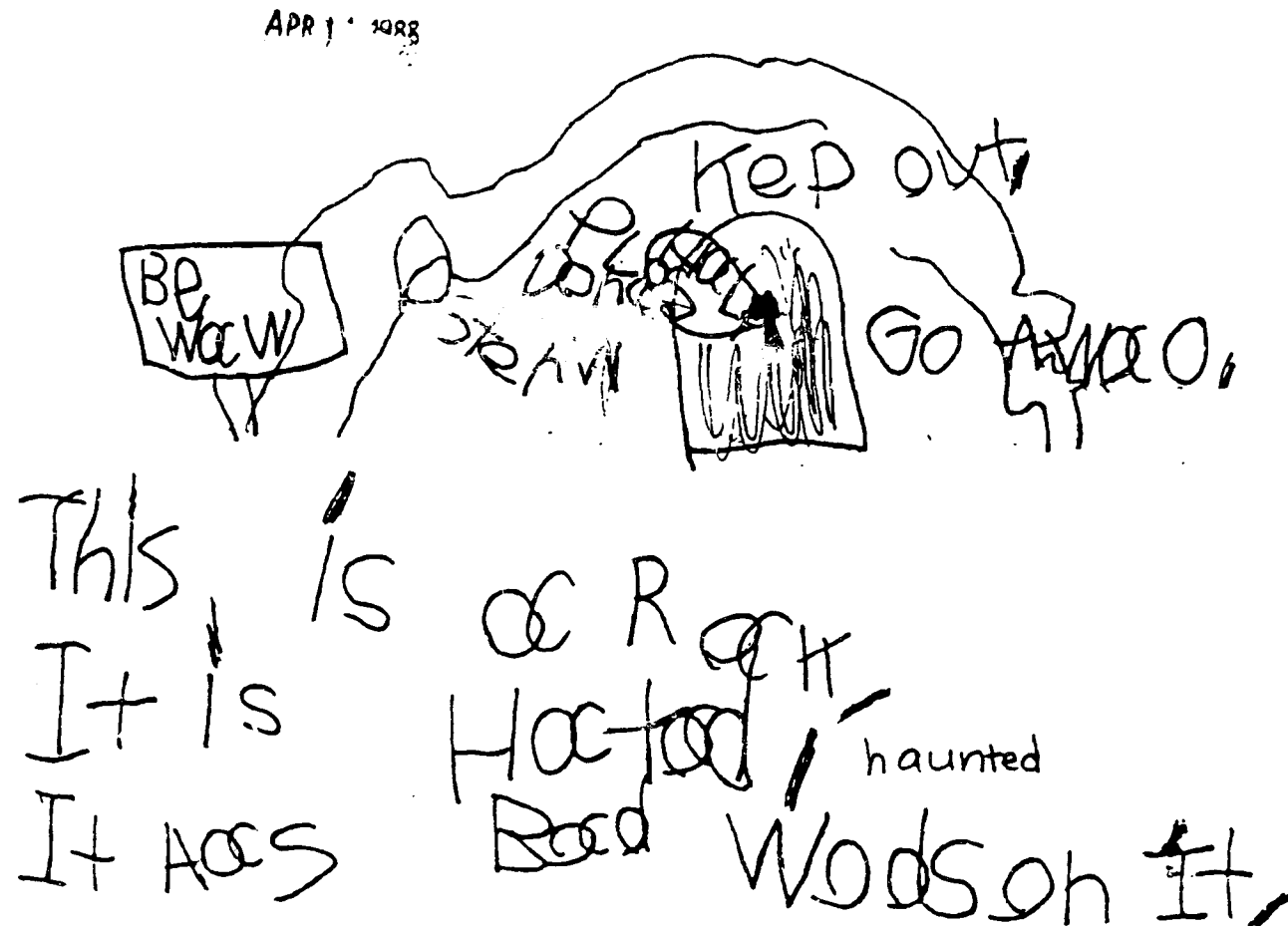
Help - Please do not destroy

In comparison to Matthew and Alan, Brandon wrote to refer to experience and to anticipate/ predict about less frequently (about half as often). Expressing was observed in Brandon's writing far less frequently than in the other children's writing (3.8% in comparison to 15.3 - 29.2%).

Caitlin used writing for ten of the eleven purposes identified in this study (all except Practicing). By far her most frequent purpose for writing was Identifying (67.3%), with Imagining also a frequent purpose (38.1%). She wrote to refer to her experiences less frequently than any of the boys (19.5%), yet Anticipating/Predicting was close to the mean for the group. Caitlin was one of two children who anticipated/predicted in the context of imaginative texts, as the

Figure 4

Brandon's Haunted Rock



following example shows:

These are weirdos. They are climbing a mountain. It is going to be a fun mountain. What is going to happen to her? She will fall.

Like Brandon, Caitlin used writing to refer to oral language in picture and text (Figure 5) or sound effects in her pictures (Figure 6). A transcript of these texts follows:

Figure 5: This is a duckling. Its name is Fuzzy. One day Fuzzy thought that the moon fell in the lake. He called the farmer. The farmer said, "What is it?"  
"The moon fell in the lake."  
The farmer said, "There is no moon in the lake. It is the reflection show. Now go to bed."  
"O. K."

IN PICTURE: Come quickly the moon is in the lake.  
Coming Good night

Figure 6: This is a mountain with lava in between. A bullet is fallen in the lava. What is happening?

IN PICTURE: Pow Pow Bang Bang

In this group of children, more interactive writing was observed in Caitlin's writing than any of the other children's writing.

Janet was the only subject in this study in whose writing all eleven functions were observed. In Janet's writing, there was the least range in frequency of purpose. Thus from a functional perspective, her writing was the most "balanced". Janet's most frequent purpose for writing was to refer to experience (37.4%), the most frequent of the three girls. Identifying was the second most frequent function observed in her writing (29.8%) although it appeared less frequently than in the writing of the other two girls. More

Figure 5

Caitlin's Fuzzy Duckling Story

This is a dackling, It's name is fose.  
 One day fose that the monno  
 fall in the lack. He called  
 the frmr. The frmr said  
 Watn ~~is~~ is it. The monno  
 fall in the lack. The  
 farmro said thry is  
 No monno in the lake.  
 It is the refaching lake.  
 Now go to bad. O.K. ho.

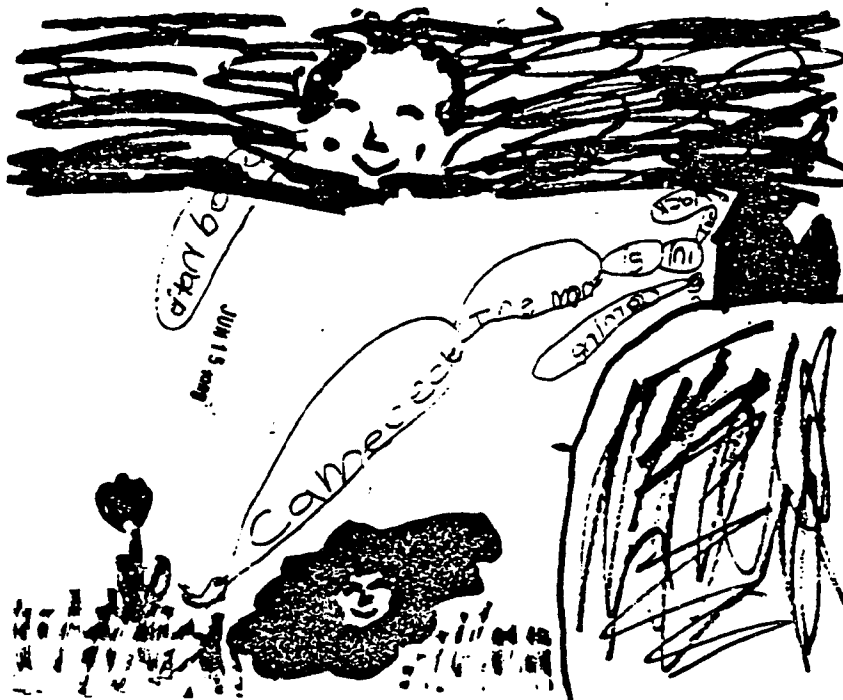
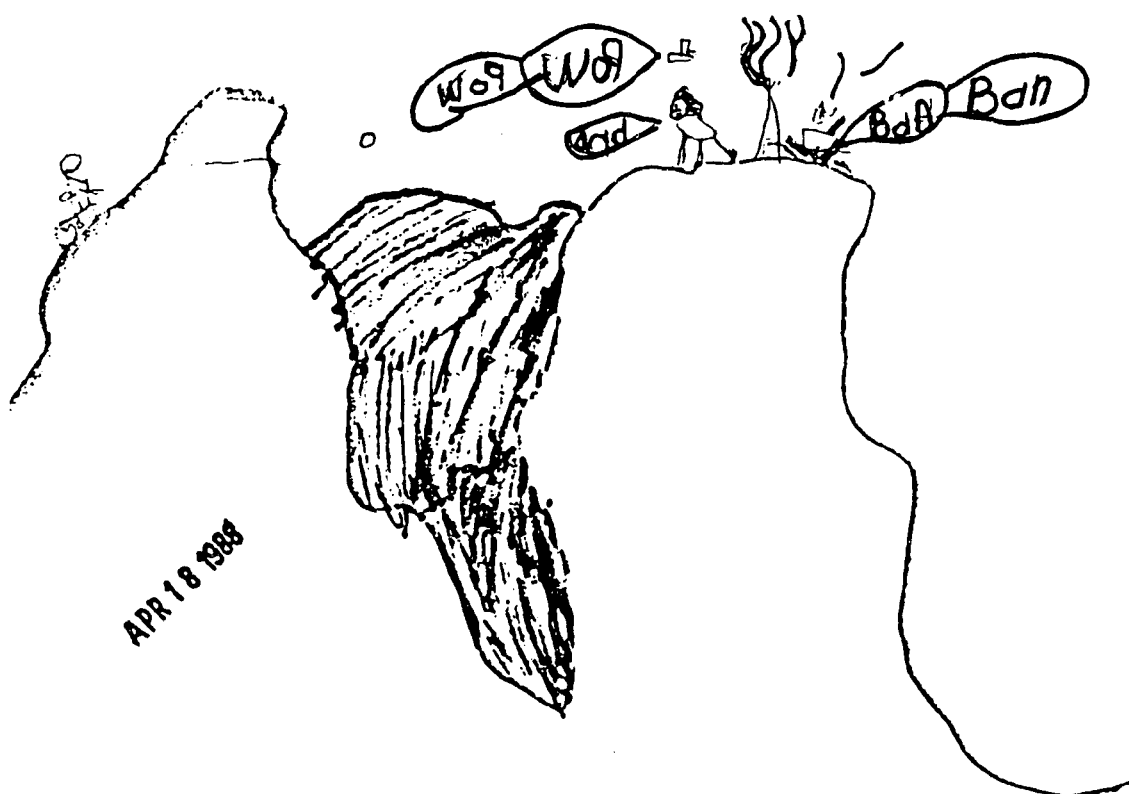


Figure 6

Caitlin's Mountains with Lava

This is a man tin wef laKaambe ten.  
A blet is falen in the lafaa.  
Wat is ha pa n?



Reasoning appeared in Janet's writing than that of the other children. An example of Janet's Reasoning (associated with Referring to Experience and Anticipating/Predicting) follows:

I am going to see my Grandpa and Grandma today. If the plane is late I will have to go to ( ). But if it's not late I will have to go to my Dad's. My Grandma will take me....

Janet also used writing to represent songs and poems, as the following example shows:

Fuzzy Wuzzy was a bear. Fuzzy Wuzzy had no hair. Fuzzy Wuzzy was a Wuzzy, a bear Wuzzy.

Although Interacting was observed in Janet's writing, it was far less frequent (1.5%) than in Caitlin's and Lindsey's writing.

Lindsey, on the other hand, had the strongest preference for one function than any of the six children - she used writing for Identifying 78.8% of the time. Other functions were far less frequent, (e.g., Expressing and Imagining at 29.2% and 26.5%, respectively). Yet more Expressing was observed in her writing than the rest of the group's writing (29.2%), and Interacting was observed at the second highest frequency (13.3%). Of this group of children, Lindsey wrote the least frequently to inform (less than one percent), to refer to experience (6.2%), and to anticipate/predict (12.4%). No Reasoning was observed in her writing. Thus, Lindsey's writing profile from a functional perspective was the most extreme.

In the writing produced by this group of children, the greatest similarities in function were found in the most frequent and least frequent functions. All

children wrote frequently to identify; Reasoning appeared rarely, if at all. Five of the six children wrote frequently to refer to experience, which was the most frequent function for Matthew, Alan, and Janet, yet Lindsey referred to experience only occasionally in her writing. Imaginative writing occurred at least occasionally in all of the children's writing, with four of the six children writing imaginatively on a more frequent basis.

Self-aggrandizement and Practicing were infrequent functions for most of the children. On an occasional basis, however, Matthew wrote to announce successes, and Janet used writing to practice writing. Informing was found infrequently in most of the children's writing, with only Matthew and Lindsey writing to inform more often. Interacting and Representing show gender differences among the children in this study. Interacting was found only in the writing of the three girls, with Janet using writing to interact only rarely. Representing occurred more frequently in the girls' writing than in the boys' writing.

Striking individual differences were found in the children's use of two functions: Expressing and Anticipating/ Predicting. For Matthew, Caitlin, and Lindsey, Expressing was a frequent purpose for writing, yet Alan and Janet wrote only occasionally for this purpose, and Brandon only infrequently. Anticipating/Predicting showed a similar pattern: two children wrote for this function frequently, three occasionally, and Lindsey wrote for this purpose infrequently.

From a functional perspective, no differences between the children were identified that could be attributed to level of development. All children used

writing for a variety of purposes. One function, interacting, showed gender differences, yet one of the three girls produced very little interactive writing (1.5%). Because the sample is small, it is not possible to draw conclusions from the lack of interactive writing in the writing of the boys in this study.

### Changes in Function Throughout First Grade

When one examines changes in distribution throughout the three terms within subjects, a different pattern emerges than the group's pattern. Only two of the eleven functions identified in this study appear to be developmental when examined from the perspective of individual writers.

Practicing, a minor function (Table 6), was not found to occur frequently in any of the subjects' writing. However, the data suggest the possibility of a developmental trend away from practising, with a decrease in Practicing in five of the six subjects. The sixth subject did not produce any writing that could be identified as Practicing.

The only upward trend that may be developmental is exhibited in the Expressing function, a major function for the group (Table 5) that performed mostly a secondary role (Table 7). Expressive writing increased throughout the year in all the subjects' writing. For four of the children, expressive writing became a major function in the last term. The remaining two children, both boys, who did not write expressively at all in the first term, used writing to express their feelings and opinions on an infrequent basis in the last two terms.

No trends were found for three major functions: Imagining, Identifying, and Referring to experience. For four of the children, Imagining increased from low to high frequency during the school year, for one child imaginative writing

remained low, yet for another, imaginative writing decreased in frequency. Writing to identify was a major function all year for three of the children, and was an infrequent function all year for another. The remaining two children wrote to identify more frequently during the first term or two, and infrequently in the last term. The most variation occurred in Referring to Experience. For two children, this was a major function during the entire school year, for two children it increased, for one child it decreased from a major function to not appearing at all in the last term. Yet for another child, writing to refer to experience did not occur at all in the first term, and was used only infrequently in the last two terms of the school year.

Throughout the year, Self-aggrandizement, Informing, and Reasoning, minor functions (Table 6) for the group, occurred infrequently or not at all. This was also the case for most of the children in terms of interactive, representative, or anticipation/ prediction functions. However, in each of these three cases a single child used writing for one of these purposes frequently for one or two terms: one child wrote interactively frequently in the first term, another child used writing for representing frequently in the last term, a third child frequently wrote to anticipate or predict during the middle and last terms.

Finally, as Table 10 indicates, for all children, writing was primarily unifunctional in the early part of the school year, becoming multifunctional by year end. Thus, the trend towards multifunctionalism indicated from the writing of the group was confirmed when the writing of the individual children was examined.

Table 10

Frequency Distributions of Functions by Subject, Beginning, Middle, and End of Year

| Frequency                  | Subject      |             |              |             |             |              |
|----------------------------|--------------|-------------|--------------|-------------|-------------|--------------|
|                            | 1            | 2           | 3            | 4           | 5           | 6            |
|                            | BME          | 3ME         | BME          | BME         | BME         | BME          |
| 1. Self-aggrandizement     | - - -        | - 0 -       | - + 0        | 0 - -       | - 0 -       | 0 0 -        |
| 2. Identifying             | x - -        | + + x       | X x X        | <b>XX</b> x | + x x       | <b>XXX</b>   |
| 3. Expressing              | - - x        | 0 x x       | 0 - -        | - + X       | - + x       | - + X        |
| 4. Interacting             | 0 0 0        | 0 0 0       | 0 0 0        | - + +       | - 0 -       | + - -        |
| 5. Informing               | + + +        | - - -       | - + 0        | 0 - +       | 0 0 +       | 0 0 -        |
| 6. Referring to Experience | + <b>XX</b>  | x x x       | + x -        | - + x       | + x x       | - - +        |
| 7. Anticipating/Predicting | + x x        | - x x       | - x -        | - + x       | + + +       | 0 + +        |
| 8. Imagining               | + - +        | - + x       | + x <b>X</b> | x X +       | + x x       | 0 x X        |
| 9. Practicing              | - 0 0        | - - 0       | - 0 0        | 0 0 0       | + 0 0       | - 0 0        |
| 10. Reasoning              | 0 - -        | 0 0 0       | 0 - 0        | 0 - -       | 0 - 0       | 0 0 0        |
| 11. Representing           | 0 0 -        | - 0 0       | - - +        | 0 + +       | 0 - x       | - - -        |
| Unifunctional              | <b>XX</b> +  | <b>XX</b> x | X x +        | X + -       | X x x       | <b>X</b> x + |
| Multifunctional            | x + <b>X</b> | + x X       | + <b>XX</b>  | x <b>XX</b> | + <b>XX</b> | + <b>XX</b>  |

B Beginning Term

M Middle Term

E End Term

0 Did not occur during the term      x Occurred 25 - 50% during the term

- Occurred &lt;10% during the term      X Occurred 50 - 75% during the term

+ Occurred 10 - 25% during the term      **X** Occurred >75% during the term

### Discussion

With one exception (Representing, which will be discussed later), all of the functions identified in this study have been identified or mentioned in the literature. However, none of the classifications map exactly with the one used in this study.

Not surprisingly, some of the major functions found in this study have been referred to in the literature by many others. Referring to Experience matches closely with Goffman's (1974), "regrounding/replay", Tough's (1976) "report on experience", Smith's (1977) "perpetuating", Klein's (1977) "describing", Stubbs' (1980) "recording", Goodman's (1984, 1986) "represent real events", and Gundlach's (1981) function to "recall and savour personal experience". Likewise, Imagining overlaps with the "imaginative" categories in both Halliday (1973) and Goodman's (1984, 1986) "represent imagined events" and Goffman's (1974) "make-believe".

Two other major categories in this study, Expressing and Anticipating/Predicting, have fewer references in the literature. Expressing maps well with the "expressive" functions in Goffman (1974) and Schachter (1979), and anticipating/predicting matches Tough's (1976) "predicting" function and Goffman's (1974) "regrounding/ preplay".

Interestingly, the most frequent function found in this study, Identifying, was only discussed by the researchers who used young children as subjects: Schachter (1979), who studied toddlers; Bissex (1980) and Goodman (1984, 1986), who studied preschoolers; and Milz (1985) who studied first graders. Identifying, though, is not a function which is left behind with childhood.

Identifying is found in many contexts in the adult world, such as labelling parts in a diagram for assembling a piece of equipment, or environmental signs such as "Produce Department" and "Exit".

Practicing, a function associated with young children, is referred to by Goffman (1974) as a subset of "technical redosings", by Bissex (1980) as "writing to learn to write", and by Anderson and Stokes (1984) and Teale (1986) as "literacy for the sake of teaching and learning literacy". Practicing was one of the most difficult functions to infer from the written product. It is possible that practicing occurred far more frequently than reported in this study, particularly if one holds the view that one learns to write by writing, which would, theoretically, make practice a function for all writing.

Interacting, the function referred to most often in the literature, was identified in only a small proportion of the writing in this study, and was found to occur only in the girls' writing. The girls in Milz's (1983) study of first grade writing also wrote a lot more interactional writing than the boys in her study. However, in the Milz study, interaction was a major function for the children's writing. It is likely, however, that since the intent of interacting is usually to give the message to the intended receiver, that many notes, letters, and other messages were given away rather than being filed in the writing folder.

Informing, another function frequently referred to in the literature (Halliday, 1973; Schachter, 1979; Anderson & Stokes, 1984; Goodman, 1984, 1986; Preece, 1985; Teale, 1986), was not a major function for the children in this study, and, in fact, was found primarily in terms of providing information about oneself and others, rather than about the physical world or about abstract

concepts, such as processes. Likewise, in the Milz (1983) study, informative writing was to reveal personal information. Only one of the subjects used informing as a secondary function, to elaborate on his topic. From a Piagetian perspective, one would expect young children to write to inform about themselves and significant others, and later, through a process of decentration to write about topics removed from the self and about abstract concepts. This was not the case in this study, however.

Representing was referred to in the literature only by Bissex (1980). She observed that at about the age of five (5.1 - 5.3 years), her son wrote to produce a general message, such as in signs and labels, and soon afterwards, to encode speech. She makes no reference, however, to any representation of written signs found in the environment. Since the instances of representing written language in this study, like the representation of talk in "balloon speech" occur within children's pictures (Figure 7), it is possible that researchers have not considered such representations as texts per se. Such representations are not uncommonly embedded in children's art work.

Incorporating written language within a picture is an example of what Dyson (1986a) refers to as "symbol weaving", the weaving together of drawing, talking and writing. As Figure 7 shows, this young writer used both drawing and writing to create and represent an imaginative situation. Since children's writing is related in function to other symbolic activities such as drawing, drama, and other forms of symbolic play (Gundlach, 1981), examining children's writing within these contexts is likely to be both interesting and informative.

Figure 7

### Balloon Speech

The <sup>APR 7 1968</sup> Chick Wat to the  
moon. He ~~Leaded~~ on the  
moon. He ~~DSided~~ to  
Leve on ~~te~~ moon.



Insight into secondary functioning was gained from Schachter's (1979) study of mother-toddler talk. Schachter observed one function, Teaches, frequently operating in a secondary role as well as in a primary role. In this study, three functions, Self-aggrandizement, Expressing, and Representing, operated for the most part in secondary roles.

In this study, Reasoning occurred only in a secondary role. This function, found to occur in conjunction with Referring to Experience and Anticipating/Predicting, was one of the most difficult function to identify, and in fact, it is debatable as to whether it is indeed a separate function. At which point does elaborating an event become Reasoning? This overlap is also indicated in the way Tough (1976) describes two similar categories:

To report on past and present experiences - labelling, referring to detail/ incidents/sequences of events, making comparisons, recognizing related aspects, analysing, recognizing central meaning, **reflecting on meaning of experiences**; and

To reason - explaining a process, recognizing causal and dependent relationships, recognizing problems and their solutions, justifying judgments, **reflecting on events and drawing conclusions**, recognizing principles. (Emphasis added.)

A comparison of functional preferences and changes from the beginning to the end of the school year, both by group and by subject, indicates that very few, if any changes in the functions of writing may have been due to development. With the exception of a downward trend in practicing, an upward trend in expressing, and an upward trend in multifunctionalism, all other changes during the year appear to be due to individual preferences or related to classroom activities. Interest may surge for a time in writing for a particular

purpose and then dwindle. At times certain activities “catch on” in a classroom and there may be a flurry of writing for a particular function. Perhaps this dual personal-social nature of writing function is an illustration of what Taylor (1986) means when she contends that “experience of print is personally constructed as well as socially owned, so that what literacy is to one may not be literacy to another” (p. 140). On the other hand, functional changes may be developmental in nature over longer periods of time than a single school year.

Since Practicing was difficult to assess, occurred infrequently, and perhaps occurred on different levels that are not revealed in their written product, conclusions about the possibility of a developmental trend in the practicing function are weak. Finally, since Expressing was usually found in a secondary role, the upward trend in Expressing may be due primarily to an increase in multifunctional writing, rather than to an increase in Expressing itself.

### Summary of Results

This chapter has detailed the functions of writing identified in the writing of six first grade children. In this study:

1. Eleven different functions were identified (research question 1 a):  
Self- aggrandizement, Identifying (possession and labelling),  
Expressing, Interacting, Informing, Referring to Experience,  
Anticipating/ Predicting, Imagining (fiction and fantasy), Practicing,  
Reasoning, and Representing (oral and written language).
2. Eight of the eleven functions were observed in the writing of all six children, with five of the six functions accounting for the bulk of the

writing, in order of frequency: Identifying, Referring to Experience, Imagining, Anticipating/Predicting, and Expressing. All children wrote for a variety of purposes. Interacting was observed only in the writing of the three girls. From a functional perspective, although there were some similarities between children, as a writer, each child was unique (research question 2).

3. Many of the texts served a variety of functions of simultaneously, and there was a trend towards increasing multifunctionalism during the school year (research question 1b).
4. Some functions tended to cluster together, in particular, Identifying and Imagining, Referring to Experience and Anticipating/Predicting, Interacting and Representing.
5. Eight functions were found to operate in both primary and secondary roles, with Referring to experience shown only as a primary function, and Self-aggrandizement and Reasoning only operating as secondary functions.
6. Overall, the group's writing showed a trend towards a decrease in Identifying and Practicing and an increase in Expressing, Informing, Referring to Experience, Anticipating/Predicting, and Representing. However, when analyzed by individual subject, trends from the beginning to the end of the year were only noted in a decrease in Practicing and an increase in Expressing. Developmental conclusions in these two areas, however, are suspect (research question 2).

7. Differences in functions found in the writing of the six children are most likely due to individual interests or preferences and/or classroom activities rather than to development. That is, changes in writing function within the first grade year appear to be of an individual nature rather developmental. On the other hand, developmental changes in function may occur so slowly that trends may need to be observed over several years to discern if there is a developmental pattern in function or not (research question 1b).

## CHAPTER 5

### The Structure of First Grade Writing

In this chapter, the results of three related aspects of the structure of text will be presented and discussed: genres, structures of text and sentence patterns. Since they are interrelated, analysis of the three aspects was conducted in an interrelated and recursive manner. Genres were categorized to a great extent on the basis of their structures, primarily at the textual level. However, syntax and sentence patterns provided structural clues as well. The results of the three structural aspects will be presented in a somewhat linear and “top-down” fashion, from genre, to structure of text, to sentence pattern. The discussion of these three interrelated aspects of text structure, though, will be conducted in a more integrated manner, to reflect the integrated way young writers weave the structures of their texts.

#### Genres

From an examination of the entire corpus of writing, fifteen genres were identified. (In the context of this study, genre refers to all forms of discourse, whether personal, literary, or expository.) Genres were identified as follows:

##### Chronological:

1. Basic Record;
2. Expanded Record;
3. Basic Record Series;
4. Expanded Record Series;

- 5. Recount;
- 6. Narrative;

Non-Chronological:

- 7. Label;
- 8. List;
- 9. Attribute Series;
- 10. Couplet;
- 11. Hierarchical Attribute Series;
- 12. Word Play;
- 13. Note or letter;
- 14. Written Dialogue;
- 15. Picture Dialogue and Sound Effects.

Genre categories, which were arrived at inductively, are described in Table 11.

Table 12 provides examples of the genres from the writing of the children in this study.

Distribution of Genres

Only four of the genres identified were found in the writing of all six subjects: Basic Record, Expanded Record, Label, and Attribute Series. These four genres also accounted for the bulk of the writing; in order of frequency, they include: Label (22%), Expanded Record (17%), Attribute Series (14%), and Basic Record (14%). Together, these four genres account for 67% of all the writing. Interactive forms, note/letter and written dialogue, were found only in the girls' writing. Word play was observed in the writing of only two subjects, both Janet and Caitlin. Table 13 summarizes the genres found for each subject.

Table 11

Genre Categories and Descriptors

| Genre                     | Descriptors                                                                                                                                                                                                                                             |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chronological</b>      | time-related;<br>action verbs;<br>usually past tense ("replays") or future tense ("pre-plays"), occasionally present tense;<br>may have temporal adverbials, e.g., yesterday;<br>may have temporal connectives, e.g., then;<br>may be true or invented. |
| 1. Basic Record           | single clause statement of action/event;                                                                                                                                                                                                                |
| 2. Expanded Record        | two or more related clauses, such as:<br>one action/event and information, or<br>two or more related events;                                                                                                                                            |
| 3. Basic Record Series    | a series of two or more unrelated action/event statements consisting of single clause units;                                                                                                                                                            |
| 4. Expanded Record Series | a series of two or more unrelated actions/ events consisting of two or more related clauses;                                                                                                                                                            |
| 5. Recount                | three or more related actions sequenced chronologically,<br>usually has temporal connectives,<br>no real crisis or complication;                                                                                                                        |

| Genre                    | Descriptors                                                                                                                                                                                                 |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6. Narrative             | three or more related actions,<br>sequenced chronologically, with basic<br>schematic structure: orientation,<br>complication, resolution, coda;<br>usually past tense;                                      |
| <b>Non-Chronological</b> | non time-related;<br>verbs of attribution (e.g., are, have, got);<br>verbs of attitude (e.g., like, want);<br>generalized present tense.                                                                    |
| 7. Label                 | exophoric reference,<br>non verbal context (i.e., picture)<br>provides much of the message,<br>identifies picture or parts of picture,<br>may be a word, phrase, or sentence,<br>may be a series of labels; |
| 8. List                  | series of items,<br>not usually in sentence form;                                                                                                                                                           |
| 9. Attribute Series      | series of one clause units to comment<br>on a topic,<br>may state attributes (e.g., details of a<br>picture) or attitudes towards the topic,<br>random order rather than logical;                           |
| 10. Couplet              | two related clause units, e.g.:<br>identification and information,<br>question and answer,<br>statement and reason,<br>statement and example,<br>statement and comment;                                     |

| Genre                                  | Descriptors                                                                                                       |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 11. Hierarchical Attribute Series      | series of units with more than one related clause, i.e., clusters of information;                                 |
| 12. Word Play                          | rhymes and repetitive phrases;                                                                                    |
| 13. Note/Letter                        | implied reader through use of pronoun YOU,<br>salutations and/or closing,<br>use of TO and FROM;                  |
| 14. Written Dialogue                   | one or a series of statements or questions written by one writer and answer(s) or response(s) written by another; |
| 15. Picture Dialogue and Sound Effects | embedded in and part of a picture, represents speech of characters in picture or sound effects related to action; |
| <b>Mixed</b>                           | two or more unrelated segments incorporating both chronological and non-chronological forms                       |

Table 12

Genre Examples

| Genre                     | Example                                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Chronological</b>      |                                                                                                                                   |
| 1. Basic Record           | <p>At night time I was kicking footballs up in the air.</p> <p>I'm going to a hockey game.</p>                                    |
| 2. Expanded Record        | <p>Yesterday my mom had a piano recital. It was a pretty good recital. We got treats at it.</p>                                   |
| 3. Basic Record Series    | <p>In fourteen days it is my birthday. I went to the Fox and the Hound. For a week it has rained. Two days ago it was Easter.</p> |
| 4. Expanded Record Series | <p>Gary came to our house. He left today. My tooth is wiggly. It will fall out. My Dad is going. He is going to Vancouver.</p>    |
| 5. Recount                | <p>When I was at the beach I caught my pointer finger. It started to bleed. But I didn't cry.</p>                                 |

| Genre                             | Example                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6. Narrative                      | Far, far away in another galaxy a rocket has been lost. No one has ever found it. The rocket crashed in Bloodland. Everything is blood. The people are blood. The astronauts were running out of the fire. They went out of the rocket. They got chased by the blood people. They got blood on their feet.                                                                                      |
| <b>Non-Chronological</b>          |                                                                                                                                                                                                                                                                                                                                                                                                 |
| 7. Label                          | This is a soccer game.                                                                                                                                                                                                                                                                                                                                                                          |
| 8. List                           | team I an                                                                                                                                                                                                                                                                                                                                                                                       |
| 9. Attribute Series               | This is an army ant base.<br>I like it.<br>There is a trap door.                                                                                                                                                                                                                                                                                                                                |
| 10. Couplet                       | This is Slimer. Slimer has a sandwich.                                                                                                                                                                                                                                                                                                                                                          |
| 11. Hierarchical Attribute Series | I am sick today. And my tummy is sore. I am going to throw up. I have a back ache. I called my Mom and she wasn't home. I have an ear ache. I feel my cat sit on my hand. I hear my cat purr. Both of my legs are broken. Both of my arms are broken. I have a broken neck. I have a broken nose. I have a broken ear. I call my Dad and so I went to the Doctor. I am very sick. I am history. |

| Genre                                     | Example                                                                                                                                                                                                                                 |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 12. Word Play                             | Fuzzy Wuzzy was a bear.<br>Fuzzy Wuzzy had no hair.<br>Fuzzy Wuzzy was a wuzzy a bear<br>wuzzy.                                                                                                                                         |
| 13. Note/Letter                           | To Mom and Dad, love Caitlin                                                                                                                                                                                                            |
| 14. Written Dialogue                      | CAITLIN: Do you want to play with me<br>today?<br>LINDSEY: Yes<br>CAITLIN: Do you really want to play<br>with me?<br>LINDSEY: No!<br>CAITLIN: Do you like me?<br>LINDSEY: Yes!<br>CAITLIN: Did you go to the tea party?<br>LINDSEY: No! |
| 15. Picture Dialogue and<br>Sound Effects | "Good night!"<br>POW!                                                                                                                                                                                                                   |
| <b>Mixed</b>                              | It is Valentine's today. This is a weirdo.<br>He is flying.                                                                                                                                                                             |

Table 13  
Distribution of Genres

### Changes in Distribution of Genres Throughout First Grade

Changes were observed in the distribution of the genres between the beginning, middle, and end time segments in both number of genres observed and the frequency with which they were produced. Eight of the fifteen genres were observed during the first term, six new genres were identified during the second term, and an additional genre arose during the final term. Thus, the children were increasing their repertoires of written discourse forms. Changes were also noted in the frequency of specific genres throughout the year. During the first term, the Label accounted for almost half of the writing (49%), with the Basic Record the next most frequent at 18%. During the second term the Label decreased in frequency (to 10%), as the children wrote in a wider variety of forms, with the Basic Record and Attribute Series gaining prominence at 20% and 21%, respectively. During the final term, the Attribute Series became even more frequently used (24%), but was surpassed in frequency by the Expanded Record (31%). Table 14 summarizes the changes in genres throughout the year.

### Individual Differences in Genre

Individual differences were noted in the frequency with which children produced the various genres. For Matthew, the most frequent genre was the Expanded Record. Comprising 34% of his writing, this genre was found almost twice as frequently in his writing as the second most frequent genre. On the other hand, Alan did not have such a strong preference for a single genre, producing two genres with similar frequency, Basic Record (24%) and Expanded Record (22%). Likewise, Brandon produced two genres with

Table 14

Frequency Distribution of Genres, Beginning, Middle, and End of Year

| Genre                                     | Percent (frequency)    |                       |                |      |
|-------------------------------------------|------------------------|-----------------------|----------------|------|
|                                           | September<br>-November | December<br>-February | March<br>-June | Year |
| <b>Chronological</b>                      |                        |                       |                |      |
| 1. Basic Record                           | 18                     | 20                    | 1              | 14   |
| 2. Expanded Record                        | 6                      | 18                    | 31             | 17   |
| 3. Basic Record Series                    | 0                      | 5                     | 3              | 2    |
| 4. Expanded Record Series                 | 0                      | 4                     | 9              | 4    |
| 5. Recount                                | 0                      | 4                     | 13             | 5    |
| 6. Narrative                              | 0                      | <1                    | 1              | <1   |
| <b>Non-Chronological</b>                  |                        |                       |                |      |
| 7. Label                                  | 49                     | 10                    | 1              | 22   |
| 8. List                                   | 2                      | <1                    | 0              | 1    |
| 9. Attribute Series                       | <1                     | 21                    | 24             | 14   |
| 10. Couplet                               | 3                      | 7                     | 3              | 5    |
| 11. Hierarchical Attribute Series         | 0                      | <1                    | 1              | >1   |
| 12. Word Play                             | 0                      | 1                     | 1              | <1   |
| 13. Note/Letter                           | 5                      | <1                    | 0              | 2    |
| 14. Written Dialogue                      | 0                      | 0                     | 1              | <1   |
| 15. Picture Dialogue and<br>Sound Effects | 4                      | 2                     | 6              | 3    |
| <b>Mixed</b>                              | 0                      | 3                     | 3              | 2    |
| Insufficient Decodable Text               | 15                     | 4                     | <1             | 6    |
| Total number of texts (raw scores)        | 273                    | 229                   | 226            | 728  |

similar frequency, Basic Record (25%) and Label (26%). The three girls each had a single genre that stood out as most frequent. Caitlin and Lindsey wrote Labels most frequently (32% and 35%, respectively), while Janet's most frequent genre was the Expanded Record (21%). Table 15 shows the frequency with which each subject produced the various genres.

When one examines the changes in genre during the school year, a strong pattern emerges. From the perspective of genre, all children increased in range and complexity. For all of the children, single clause genres were dominant during the first term. For Janet, this was the Basic Record, for the other five children, it was the Label. During the last term, however, all of the children produced more complex forms than single clause forms. Brandon and Lindsey produced Attribute Series the most often, while the other four children produced Expanded Records most often. Differences in timing were noted between the various ability levels. Children identified by the teacher as advanced or average in ability produced Expanded Records by the middle term, while children who were identified as delayed produced this form only in the last term (Brandon) or not at all in their first grade year (Lindsey). Likewise, though "advanced" and "average" children produced Recounts or Narratives by the middle term, the "delayed" children did not produce the Recount until the last term, and produced no true Narratives during their first grade year. Table 16 shows the distribution of genres by subject during the three terms.

### Structures of Text

The genres identified may be classified into two groups, chronological and non-chronological. Within each of these categories, the genres are

Table 15

Frequency Distribution of Genres Across Subjects

|                             |                                       | Percent (frequency) |    |    |    |    |    |           |
|-----------------------------|---------------------------------------|---------------------|----|----|----|----|----|-----------|
|                             |                                       | Subject             |    |    |    |    |    |           |
| Genre                       |                                       | 1                   | 2  | 3  | 4  | 5  | 6  | $\bar{X}$ |
| <b>Chronological</b>        |                                       |                     |    |    |    |    |    |           |
| 1.                          | Basic Record                          | 18                  | 24 | 25 | 4  | 10 | 4  | 14        |
| 2.                          | Expanded Record                       | 34                  | 22 | 5  | 12 | 21 | 9  | 17        |
| 3.                          | Basic Record Series                   | 3                   | 7  | 0  | 1  | 5  | 0  | 2         |
| 4.                          | Expanded Record Series                | 7                   | 5  | 1  | 3  | 7  | 0  | 4         |
| 5.                          | Recount                               | 9                   | 0  | 5  | 8  | 5  | 3  | 5         |
| 6.                          | Narrative                             | 1                   | 1  | 0  | 1  | 1  | 0  | <1        |
| <b>Non-Chronological</b>    |                                       |                     |    |    |    |    |    |           |
| 7.                          | Label                                 | 15                  | 12 | 26 | 32 | 11 | 35 | 22        |
| 8.                          | List                                  | 1                   | 2  | 0  | 0  | 2  | 0  | 1         |
| 9.                          | Attribute Series                      | 2                   | 8  | 18 | 20 | 13 | 26 | 14        |
| 10.                         | Couplet                               | 1                   | 8  | 5  | 7  | 2  | 6  | 5         |
| 11.                         | Hierarchical Attribute Series         | 0                   | 1  | 2  | 1  | 0  | 0  | <1        |
| 12.                         | Word Play                             | 0                   | 0  | 0  | 0  | 3  | 1  | <1        |
| 13.                         | Note/Letter                           | 0                   | 0  | 0  | 2  | 1  | 9  | 2         |
| 14.                         | Written Dialogue                      | 0                   | 0  | 0  | 1  | 1  | 1  | <1        |
| 15.                         | Picture Dialogue and<br>Sound Effects | 0                   | 3  | 9  | 9  | 4  | 4  | 3         |
| <b>Mixed</b>                |                                       | 4                   | 0  | 1  | 2  | 2  | 2  | 2         |
| Insufficient Decodable Text |                                       | 5                   | 9  | 8  | 1  | 12 | 2  | 6         |



hierarchically ordered to some extent, by order of increasing complexity. In the chronological category, the simplest form is the Basic Record, which consists of a single statement related to an action or event. These statements usually consist of single clause units; occasionally, they are phrases or sentence fragments. Expanded Records consist of two or more clause units that are related to the same event. When chronological sequencing is added, a Recount evolves. Then, with the addition of a crisis of complication, Narrative develops. Two of the genres, Basic Record Series and Expanded Record Series are lists of separate or unrelated events, with the Basic Record Series consisting entirely of single clause units.

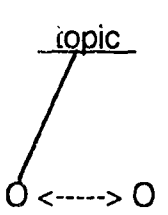
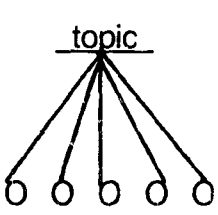
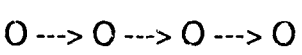
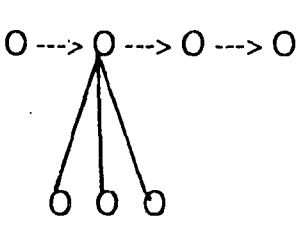
Within the non-chronological category, there are two sets of genres, one of which has a hierarchical or developmental nature. This set of genres includes the List, which usually consists of single words; Label, single clause units; Couplets, two related clause units; Attribute Series, consisting of lists of single clause units related to a central topic, and the Hierarchical Attribute Series, an extension of the former, with the addition of subtopics with associated clusters of information. The other four non-chronological genres have unique characteristics and are not hierarchically ordered. Figure 8 provides a visual representation of the structure of the hierarchically ordered genres.

### Centering and Chaining

According to Applebee (1978), clauses are linked by one of two processes, centering and chaining. In chaining, there is a shared idea between two clauses; one idea expands on the previous idea, thus producing pair-wise

Figure 8

Text Structures

| Text Structure                                                                | Diagram                                                                              | Genres                                           |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--------------------------------------------------|
| <u>Single Clause</u><br>(may be a series<br>of single unrelated<br>clauses)   |     | Label<br>Basic Record<br>Basic Record Series     |
| <u>Coupled</u>                                                                |    | Couplet<br>Expanded Record<br>Exp. Record Series |
| <u>Centered</u>                                                               |  | Attribute Series                                 |
| <u>Chained</u>                                                                |  | Expanded Record<br>Recount<br>Narrative          |
| <u>Centered + Chained</u><br>(centering may occur<br>at any point in a chain) |  | Recount<br>Narrative                             |

connections. These connections are often, but not necessarily, chronological. In the chaining process, a shared word may provide the link, or a pronoun in the following clause may refer to a noun phrase in the previous clause. Examples of pairwise connections include identification + information, statement + reason, or statement + example. Examples of longer chains include relating a sequences of events or giving directions. In the centering process, clauses are related to a central nucleus, producing an associative clustering rather than a logical or sequential pattern. Centering often involves attributes or attitudes. Examples of such connections include descriptions about characters or settings. In this study, many examples of centering and chaining were found in the children's texts. Sometimes, but not often, texts were found to have both types of links.

Examples:

1. Chaining

Two days ago I couldn't play soccer because they said it was too wet.  
Last night I made a paper mache bowl. It isn't dry yet.

The dragons sleep for the winter. Next spring they will awaken.

2. Centering

This is a picture of Hawaii, me watching the sea, and the sun shining in the picture.

This is a castle. The castle is Craigdarroch Castle. The castle is huge. I like the castle.

Once upon a time there was a girl. The girl was not an ordinary girl. The girl was a princess. The girl's name was Sarah.

### 3. Centering + Chaining

Long, long ago there was a ghost. It was inside my house. It was a nice ghost. But it was hungry, so I fed it. And then I got hungry, and it fed me. We made friends. We went to the park.

My Dad got a new bike. It is red and yellow. I like it. It is nice. He loves it too. We had a bike ride. We went up hills and down hills. It was nice. We went to see Stewart at his new house. When we got home I went to bed. I'm sorry to say, but I have to go.

The genres identified in this study may be organized across the chronological/non-chronological boundary according to the types of links. Labels and Basic Records are single unit texts, Couplets are pair-wise chains, Attribute Series are centered, and Expanded Records, Recounts and Narratives are primarily chained, although they often incorporate small clusters or pair-wise connections. More elaborate narratives, often contain fairly large clusters. Expanded Record Series may be classified as pair-wise or chained, depending on the structure of the particular text.

### Changes in Text Structure Throughout First Grade

As children gain experience with writing, the structures of their texts change in complexity. In this study, simpler forms of text were replaced by more complex genres, as demonstrated in Table 16. To more readily see the changes throughout the year, the data was organized to show the changes in structure from the beginning to the end of the year. Table 17 shows the most frequent text structure types during the first three terms: single unit, coupled (pair-wise), centered, chained, and centered + chained within one text. This chart does not include all forms, for example Lists, which usually do not have

Table 17

Most Frequent Structural Types

| Percent (frequency) |                   | Subjects |    |                |    |    |             | $\bar{X}$ |
|---------------------|-------------------|----------|----|----------------|----|----|-------------|-----------|
|                     |                   | 1        | 2  | 3              | 4  | 5  | 6           |           |
| Single Clause       | B                 | 64       | 68 | 82             | 86 | 44 | 69          | 69        |
|                     | M                 | 21       | 22 | 34             | 22 | 19 | 28          | 24        |
|                     | E                 | 0        | 0  | 4              | 0  | 0  | 3           | 1         |
| Coupled             | B                 | 16       | 11 | 2              | 9  | 12 | 2           | 9         |
|                     | M                 | 45       | 31 | 20             | 16 | 9  | 22          | 24        |
|                     | E                 | 16       | 28 | 15             | 6  | 11 | 6           | 14        |
| Centered            | B                 | 0        | 0  | 0              | 2  | 0  | 0           | <1        |
|                     | M                 | 10       | 13 | 29             | 49 | 21 | 26          | 25        |
|                     | E                 | 18       | 21 | 46             | 30 | 34 | 77          | 38        |
| Chained             | B                 | 0        | 0  | 0              | 0  | 4  | 0           | 1         |
|                     | M                 | 21       | 6  | 0              | 3  | 21 | 6           | 10        |
|                     | E                 | 51       | 29 | 27             | 49 | 47 | 10          | 36        |
| Centered + Chained  | B                 | 0        | 0  | 0              | 0  | 0  | 0           | 0         |
|                     | M                 | 0        | 3  | 0              | 8  | 7  | 0           | 3         |
|                     | E                 | 6        | 7  | 8              | 12 | 3  | 3           | 7         |
| B                   | Beginning of year |          | M  | Middle of year |    | E  | End of year |           |

clause units, and Record Series, in which the clause units are not linked, nor fragments or texts which were not sufficiently decodable.

Table 17 reveals that single clause units were the most frequent text structure during the first term, comprising 66% of the texts, and decreased in frequency to 1% in the last term. Pair-wise connections increased during the second term, but then decreased. This indicates that the children's texts were becoming increasingly complex in comparison to the first term, but that pair-wise connections diminished as the children began to write longer texts. Centering and chaining gradually increased throughout the year, with centering becoming apparent in greater frequency than chaining, yet by year's end, centering and chaining were similar in frequency (39% and 38%), and accounted for the vast majority of the texts. Finally, centering + chaining within a text increased from 0 to 10% at year's end.

Length of text. In addition to producing texts with more complex structures as the school year progressed, the children's texts increased in length. This can be demonstrated two ways, first by examining mean clause length per text, and secondly, by showing examples of the same genre early and late in the school year. During the first term, most of the children's texts were one clause in length. By the end of the year, all of the children wrote texts averaging more than three clauses long, ranging from an average of 3.15 to 5.52 clauses per text. Table 18 summarizes the calculations for mean clause per text for the children throughout the three terms.

Table 18

Length of Text

| Subject    | $\bar{X}$ clauses per text |                        |                 |             |
|------------|----------------------------|------------------------|-----------------|-------------|
|            | September<br>- November    | December<br>- February | March<br>- June | Year        |
| 1. Matthew | 1.05                       | 2.29                   | 4.00            | 2.55        |
| 2. Alan    | 1.08                       | 2.20                   | 3.68            | 2.20        |
| 3. Brandon | 0.98                       | 2.03                   | 3.27            | 1.93        |
| 4. Caitlin | 1.12                       | 4.36 *                 | 5.61            | 3.48**      |
| 5. Janet   | 1.11                       | 3.86                   | 3.81            | 2.98        |
| 6. Lindsey | 0.77                       | 2.76                   | 4.10            | 2.47        |
| $\bar{X}$  | 1.01                       | 2.97 ***               | 4.10            | 2.63 $\phi$ |

\* This excludes one unusually long text with 56 clauses. With this text excluded, the calculations for mean text length are as follows:

\* 2.89, \*\* 3.01, \*\*\* 2.72, and  $\phi$  2.55.

Examples of increasing length and complexity are demonstrated with the following examples from the Matthew's writing, all references to soccer:

At Windsor Park I played soccer with my brother. (September)

Yesterday after school Alex came to my house and we played soccer. (December).

Every day I go to soccer. Every day after school I play soccer. Sometimes my Dad plays with me. (January)

My soccer games are almost over. At Easter weekend my soccer coach is having a tournament. I am going to the tournament. At the tournament we are going to have three games. I am going to get a shirt. (February)

Last Saturday and Sunday my brother went to soccer tournaments. There was two tournaments a day. His team was in third place. At the end every team got a trophy even though the team might not have won. And everyone got a popsicle. Last Saturday and Sunday I was sick. (March)

Sometimes the children wrote the same piece repeatedly over a period of several days or weeks, each time adding something new. An example of this type of reworking is selected from Brandon's texts:

Long, long ago in the woods there was a Wolfman. He destroys anybody who comes near him. His friend is Frankenstein. (January 9)

This is Wolfman. He destroys anybody who comes near him. His friend is Frankenstein. He lives on the rocks. (January 23)

This is Wolfman. He destroys anybody who comes. His friend is Frankenstein. He lives on the rocks. His name is the Mummy. (February 1)

In late February, Caitlin produced one exceptionally long text which contained 56 clauses. (Three other lengthy texts written by Caitlin were 12, 14,

and 23 clauses long.) This text, a Recount, though long is rather simple in structure. Wilkinson (1980) refers to this type of text as a “bed to bed story”. A text of this length tends to hide the gradual increase in text length, thus, to demonstrate the trend in increasing length. Table 18 provides mean clause per text length calculated with and without this extremely long text.

Drawing and writing. In this study, the children’s writing was usually accompanied by drawing and often, the children referred directly to their picture, or some aspect of the picture, in their writing. Table 19 summarizes the results of the analysis of pictures associated with text.

Two of the genres, Label and Picture Dialogue/Sound Effects were defined in terms of the relationship between the text and the picture. Five of the children embedded text within their pictures by representing the talk of characters in their pictures and sound effects related to action, such as POW and BANG! During the first term, 99% of the texts were accompanied by pictures. Throughout the year there was a downwards trend in drawing with writing, as children learned to convey their meanings lexically, although Lindsey continued to combine drawing and writing almost exclusively right through the year. In some instances, a child would embed dialogue in the picture and make a direct reference to this dialogue in the body of the text (see Figure 9).

As children wrote, they often made explicit references to their drawings. In this study, children accomplished these references in one of two ways, either lexically or by the use of arrows linking text and picture. An examination of the exophoric reference group means shows a slight decrease in exophoric

Table 19

Pictures Associated With Text

Percent (frequency)

| Subject |           | September<br>- November | December<br>- February | March<br>- June | Year |
|---------|-----------|-------------------------|------------------------|-----------------|------|
| 1.      | Matthew   | 98                      | 76                     | 16              | 45   |
| 2.      | Alan      | 98                      | 84                     | 36              | 77   |
| 3.      | Brandon   | 100                     | 94                     | 100             | 98   |
| 4.      | Caitlin   | 100                     | 95                     | 79              | 93   |
| 5.      | Janet     | 100                     | 74                     | 84              | 87   |
| 6.      | Lindsey   | 100                     | 100                    | 98              | 99   |
|         | $\bar{X}$ | 99                      | 77                     | 67              | 82   |

Figure 9

Dialogue in Picture and Text

This is my land. The fowl is saying  
 "I am a BABR." I like it.

Jan 1950  
 Jan 1950



I am a BABR.

reference after the beginning term. Table 20 summarizes the results of the analysis related to exophoric reference.

### Individual Differences in Text Structure

All of the children began the year writing predominantly single clause texts. By the middle term, single clause texts were still the dominant form for the two children rated by the teacher as “delayed” in development, Brandon and Lindsey. During this term, two-unit texts were most frequently observed in Matthew’s and Alan’s writing (45% and 31%, respectively), while Caitlin wrote mostly centered texts (49%), and Janet wrote either centered or chained texts (21% and 21%, respectively). By the end of the year, however, the “advanced” and “average” children wrote mostly chained texts, while the “delayed” children wrote more centered texts. As the year progressed, all of the children’s texts increased in length.

The sequence in which the structure of text changed varied with the individual child. Apart from the fact that the single unit structure developed first, there were few similarities in the development of text structure. The sequences for each child were as follows:

Matthew: (1) single unit, (2) coupled, (3) centred and chained;

Alan: (1) single unit, (2) coupled and centred, (3) chained;

Brandon: (1) single unit, (2) coupled and centred, (3) chained;

Caitlin: (1) single unit, (2) coupled, (3) centred, (4) chained;

Janet: (1) single unit, (2) coupled and chained, (3) centred;

Lindsey: (1) single unit, (2) coupled, (3) centred, (4) chained.

Table 20

Exophoric Reference

| Subject    | Percent (frequency)     |                        |                 | Year |
|------------|-------------------------|------------------------|-----------------|------|
|            | September<br>- November | December<br>- February | March<br>- June |      |
| 1. Matthew | 36                      | 5                      | 6               | 16   |
| 2. Alan    | 13                      | 9                      | 32              | 17   |
| 3. Brandon | 51                      | 28                     | 59              | 45   |
| 4. Caitlin | 84                      | 72                     | 29              | 63   |
| 5. Janet   | 18                      | 30                     | 21              | 23   |
| 6. Lindsey | 58                      | 86                     | 80              | 74   |
| $\bar{X}$  | 43                      | 38                     | 38              | 40   |

The children differed greatly in the way in which they related drawing and writing. Almost all of the writing was accompanied by drawings in the first term. For Matthew, drawing became increasingly less associated with writing, so that by year's end, only 16% of his writing was accompanied by drawing. A similar pattern was noted with Alan, although he continued to draw more than one third of the time in the last term. On the other hand, Lindsey almost always combined drawing and writing throughout the year. Decreases in exophoric reference were demonstrated in the "advanced" children's writing as the year progressed, yet this was not the case with the other children. Individual differences were noted.

### Sentence Patterns

Analysis of sentences was conducted from two perspectives: sentence types (simple, compound, complex, and so on) and common sentence patterns.

### Sentence Types

The children produced simple, compound, and complex sentences, and one girl, Caitlin, produced a few compound-complex sentences as well. Simple sentences were by far the most frequent, averaging 94% for the year. The vast majority of the sentences were assertive; very few questions and even fewer imperatives were written. From time to time, Caitlin would sometimes use a question, or occasionally an imperative, as a type of coda in her writing, for example:

This is Slimer. He is trying to catch it. Where is it? (January)

Today is Pancake Tuesday. We are having a race with the left-over pancake. I wonder who's going to win? (March)

This is Weirdo Land. It is weird. Everyone is weird. The sun is weird.  
The people are weird. And the space ships are weird too. Watch out!  
(February)

Table 21 summarizes the results of the analysis for sentence types.

### Common Sentence Patterns

Analysis of the data revealed three types of sentence patterns: sentence beginning patterns, within-text sentence patterns, and "sentence formulas" for creating texts.

The most frequent sentence beginnings in the writing in this study were: **This is ....**, personal pronouns, and temporal adverbials. (Table 22 summarizes the results for common sentence patterns). At the beginning of the year **This is ....** started more than half of the children's sentences. This sentence pattern is, of course, related to the predominant genre in the first term, the Label, for example, "This is a rocket." **This is ....** also began many of the first sentences in Couplets and Attribute Series as well:

This is a flying saucer. The green things are Martians.

This is a castle. I just got it last night. It has a trap door.  
The drawbridge can go up.

As the year progressed, and children began to write longer, more complex texts, sentences beginning with personal pronouns increased to almost half of all sentences written. In this instance, many of the first sentences in a text were written with first person pronouns, I, my, and we. In subsequent sentences in a text, many of the sentences began with third person pronouns, he, she, it, and they.

Table 21

Sentence Types

|                     |                   | Subjects |     |                |     |     |             |           |
|---------------------|-------------------|----------|-----|----------------|-----|-----|-------------|-----------|
| Frequency           |                   | 1        | 2   | 3              | 4   | 5   | 6           | $\bar{X}$ |
| Sentences produced  | B                 | 38       | 29  | 35             | 42  | 36  | 34          | 36        |
|                     | M                 | 81       | 57  | 65             | 144 | 143 | 82          | 74        |
|                     | E                 | 174      | 95  | 82             | 174 | 130 | 152         | 135       |
|                     | Year              | 293      | 181 | 182            | 360 | 309 | 268         | 266       |
| Percent (frequency) |                   |          |     |                |     |     |             |           |
| Simple Sentences    | B                 | 87       | 97  | 100            | 90  | 92  | 100         | 95        |
|                     | M                 | 85       | 96  | 94             | 94  | 88  | 99          | 93        |
|                     | E                 | 91       | 97  | 91             | 90  | 95  | 95          | 93        |
|                     | Year              | 89       | 97  | 94             | 92  | 92  | 97          | 94        |
| Compound Sentences  | B                 | 8        | 0   | 0              | 10  | 3   | 0           | 4         |
|                     | M                 | 4        | 3   | 0              | 3   | 5   | 3           | 3         |
|                     | E                 | 2        | 5   | 1              | 3   | 2   | 1           | 2         |
|                     | Year              | 3        | 2   | 1              | 3   | 3   | 1           | 3         |
| Complex Sentences   | B                 | 5        | 3   | 0              | 0   | 6   | 0           | 3         |
|                     | M                 | 11       | 2   | 6              | 3   | 7   | 0           | 5         |
|                     | E                 | 6        | 0   | 7              | 8   | 4   | 4           | 5         |
|                     | Year              | 8        | 1   | 5              | 4   | 6   | 2           | 4         |
| Questions           | Year              | 0        | 0   | 1              | 4   | 1   | 0           | 1         |
| Imperatives         | Year              | 0        | 0   | 1              | 1   | 0   | 0           | .5        |
| B                   | Beginning of year |          | M   | Middle of year |     | E   | End of year |           |

Table 22

Common Sentence Patterns

| Percent (frequency)       |                | Subjects |    |    |    |    |    | $\bar{X}$ |
|---------------------------|----------------|----------|----|----|----|----|----|-----------|
|                           |                | 1        | 2  | 3  | 4  | 5  | 6  |           |
| Sentences beginning with: |                |          |    |    |    |    |    |           |
| This is.....              | B              | 42       | 28 | 63 | 88 | 25 | 79 | 56        |
|                           | M              | 2        | 4  | 12 | 17 | 10 | 43 | 19        |
|                           | E              | 2        | 11 | 23 | 3  | 8  | 22 | 10        |
|                           | Year $\bar{X}$ | 8        | 11 | 27 | 19 | 11 | 36 | 18        |
| Personal Pronoun          |                |          |    |    |    |    |    |           |
| Personal Pronoun          | B              | 23       | 66 | 35 | 12 | 44 | 6  | 29        |
|                           | M              | 33       | 49 | 45 | 52 | 59 | 28 | 47        |
|                           | E              | 36       | 52 | 39 | 64 | 59 | 31 | 47        |
|                           | Year $\bar{X}$ | 34       | 53 | 40 | 53 | 58 | 27 | 45        |
| Temporal Adverbial        |                |          |    |    |    |    |    |           |
| Temporal Adverbial        | B              | 31       | 10 | 6  | 0  | 17 | 15 | 13        |
|                           | M              | 51       | 25 | 18 | 8  | 11 | 6  | 17        |
|                           | E              | 42       | 25 | 6  | 9  | 5  | 9  | 17        |
|                           | Year $\bar{X}$ | 43       | 23 | 10 | 8  | 9  | 9  | 17        |

Throughout the year, an average of 17% of the sentences were begun with temporal adverbials, the most common of which were “yesterday”, and “today”. The temporal adverbials the children used, though, were many and varied, from phrases such as:

- . in two days;
- . in one or two weeks;
- . every day after school;
- . once upon a time;
- . long, long ago;
- . yesterday and the day before Easter and the day before that;

and clauses:

- . when I got home from school;
- . long long ago when dinosaurs lived;
- . when it is very hot.

### Individual Differences in Sentence Patterns

Different children used these common sentence patterns in different amounts. For Andrew, the most common way to begin a sentence was with temporal adverbials, and he had the greatest variety of temporal adverbials in his writing. For Lindsey, the most common sentence beginning was **This is ....**; for the other children, a personal pronoun was the most frequent way to begin a sentence.

The children’s writing also contained patterns of sentences within a text. In some instances, this involved repetition of a phrase or variations on a theme,

for example:

I like school. And I like playing soccer. And I like playing on the rocks.  
(Matthew, January)

I am sick today. And my tummy is sore. I am going to throw up. I have a back ache. I called my Mom and she wasn't home. I have an ear ache. I feel my cat sit on my hand. I hear my cat purr rrr. Both of my legs are broken. Both of my arms are broken. I have a broken neck. I have a broken nose. I have a broken ear. I call my Dad and so I went to the doctor. I am very sick. I am history. (Alan, March

I will get new shoes. They will be nice. I will like them. They will be pretty. They will be from my Dad. They will be my Valentine's present.  
(Janet, February)

Lindsey's Mom is nice. And Susan is nice too. And Dad is nice too.  
(Lindsey, February)

In the 56-clause text Caitlin wrote in February, there were several clusters of sentence patterns, as shown in the following excerpt:

.... We will take Tramp to J-P's preschool. Tramp will go wild. He will go really wild. We will take him home. I will play with my friends. I will have fun. I like Tramp. He is my best friend. I really like him. I always play with him. I love him. I love him so much. I have never loved a dog so much. I love my Mom and Dad. I love my J-P too. I like you....

Another type of sentence pattern identified in the children's writing was a sort of "recipe" or "formula" for writing texts. Most of the children used the

following two patterns:

1. Assertion + Information + Attitude:

Examples:

Today we had hot dogs. I got hot dogs. They were good.  
(Alan, April)

My Dad tumbled off his bike. He didn't like it. I am sad.  
(Caitlin, April)

This is a magic flower. There is not much colours on it. I like it.  
(Janet, June)

This is Project Land. Project Land is beautiful. I like Project Land  
(Lindsey, March)

2. Identification (This is....) + Information (It is....) + Information (It is....)

Examples:

This is a bird. It is magic. It is different than nay other birds.  
(Brandon, March)

This is a weirdo. It is flying to space. It is going to crash.  
(Caitlin, February)

This is a poor man. He lives by himself. He does not have any friends. (Janet, May)

This is a heart. It is a love heart. It always stays over a rainbow.  
(Lindsey, February)

Recurring patterns or themes were also identified in Caitlin and Matthew's writing. Caitlin used the following pattern many times:

Pattern: Identification + Information + Question

Examples:

This is a rainbow. It is wet. Where is it? (January)

This is a birthday party. It is fun. Where are you? (January)

This is Slimer. He is trying to catch it. Where is it? (January)

This is Weird Land. It is weird. Where are you? (January)

This is a mountain with lava in between. A bullet is fallen in the lava.  
Where is it? (April)

Matthew wrote many texts with sentences beginning with combination of **yesterday**, **today** and **tomorrow**, as shown in the following examples:

Pattern: Yesterday + Today + Tomorrow

Examples:

Yesterday we made stone soup. Today we are going to eat it. (February)

Today is my big brother's birthday. Tomorrow is his party. (March)

Yesterday I ordered a hot dog. Today I brang the money. Today  
afternoon we are going to get the hot dog. (April)

Yesterday my Dad bought me and my little brother a soccer ball. He got  
a bigger ball because he uses it as a basket ball. Today he brang it to  
school. (April)

### Discussion

Most, but not all, of the genres identified in this study have been mentioned or alluded to in the literature. The classification system developed in this study is based globally on the framework suggested by Perera (1984) and Harris (1986). That is, the genres are separated first along the dimension of chronology/non-chronology, creating two large categories one could loosely refer to as narrative and non-narrative. Here, though, the similarity ends. The division of genres into categories based on clause structure is modelled after Newkirk's (1987) classification of children's non-narrative writing, and incorporates aspects of Applebee's (1978) investigation into the development of children's stories, particularly the concept of centering and chaining. As well, the classification of narrative texts encompasses Martin and Rothery's (1986) notion of the development of narrative from primitive forms. Because the classification system based on clausal analysis could not account for all of the data, four rather unique forms have been identified, three of which have been referred to in the literature, Word Play (Moffett & Wagner, 1983), Note/letter (Bissex, 1990) and Written Dialogue (Moffett & Wagner, 1983; King & Rentel, 1983). Picture Dialogue and Sound Effects has never been identified as a separate genre, yet the form seems distinct enough for it to be considered as such. The resulting classification system is both a hybrid, since it builds on the literature, and unique since it accounts for every text produced by these first grade writers.

In the chronological category, the genres are based first on clausal units, and then on the features of narrative identified by Labov (1972). In comparison to Martin and Rothery's (1986) classification, the four types of Record in this

study would overlap with Martin and Rothery's (1986) "observation and comment"; Recount and Narrative would map identically in both systems. Because the narrative forms were not determined along true/invented lines (Goffman, 1974; Scarlett & Wolf, 1979; King & Rentel, 1983; Moffett & Wagner, 1983; Harris, 1986), there is little overlap with many other classification systems.

The Basic Record, the basic single clause text from which other chronological record forms develop, is not referred to explicitly anywhere in the literature, yet it is clearly distinct from the Label and from more developed record forms. Since the basic function of writing is the recording function (Stubbs, 1980), this is somewhat surprising. The Expanded Record bears similarities to Applebee's (1978) "primitive narrative" and the Record Series, strings of record statements, are similar to Moningham-Nourrot and others' (1988) "chained sequence". Recount overlaps with Applebee's "unfocused chain" and Stein and Glenn's (1979) "action sequence", while the Narrative genre as it is described in this study overlaps with Stein and Glenn's "abbreviated episode", Applebee's "focused chain", and Bissex's (1980) "story".

In the non-chronological category, the Label has the most frequent reference in the literature (Bissex, 1980; Wilkinson et al., 1980; Moffett & Wagner, 1983; King & Rentel, 1983; Newkirk, 1987). The List, Attribute Series, and Couplet are virtually identical to Newkirk's (1987) genres of the same name. The Attribute Series also bears strong similarities to genres identified by others: "sequence" (Applebee, 1979); "descriptive sequence", (Stein & Glenn, 1979), and "centered sequence" (Moningham-Nourrot et al., 1988).

Not surprisingly, as the children in this study gained experience with

writing their repertoire of genres increased and they began to write more complex forms. One of the forms that was modelled daily for the children was the "Morning News". As the children grew as writers they too wrote their "morning news" first in the form of the Basic Record, and later as "Expanded Record". The daily modelling these children received certainly had an impact on these young writers.

Because the children were encouraged to draw as well as write, many of their writings and drawings were integrated, thus Labels, Couplets, Attribute Series and Picture Dialogue/Sound Effects were outgrowths of their multi-media activities. Although the teacher also read to the children several times daily, the children wrote more frequently from their personal experience. Rather than leaping directly into narrative from the modelling they received through frequent reading by their teacher, the children's imaginations often led them to create their imaginary worlds through drawing as well as writing, and the resulting genres were more likely to be non-chronological rather than chronological. As the school year progressed, however, a text that started out as a label sometimes evolved into a narrative. An example of this evolution is seen in this text Caitlin wrote in June:

This is a duckling. Its name is Fuzzy. One day Fuzzy thought that the moon fell in the lake. He called the farmer.  
 The farmer said, "What is it?"  
 "The moon fell in the lake."  
 The farmer said, "There is no moon in the lake. It is the reflection show.  
 Now go to bed."  
 "O. K."

Most of these first grade children, then, continued to be "symbol weavers" (Dyson, 1985) throughout first grade.

As their writing evolved, the children began to link their ideas together. From single clause texts, more complex text structures developed. Pair-wise connections did not always precede centering and chaining. And, as Monaghan-Nourot and others (1988) found in their investigation, the processes of centering and chaining occurred at the same level of development, rather than centering preceding chaining as Applebee (1978) suggested. Different children's writing developed complexity in different ways. Apart from beginning with single clause units, children wrote their way to a combination of centering and chaining through different routes, yet they all reached this destination by the end of the school year.

The children wrote mostly in simple sentences, yet gradually their sentences too became more complex, but not always through the simple → compound → complex route suggested by Perera (1984). Once again, different children evolved in different ways.

Although the developments suggested by Lindfors (1985):

- . from non-verbal to verbal;
- . from shorter to longer;
- . from "building blocks" to "ivy"; and
- . from simple to complex;

are verified by the children's writing in this study, the growth was irregular and uneven. Children would sometimes seem to be plateauing and reinventing the same text or a different text with the same pattern repeatedly. A child whose writing seemed to be progressing rather slowly would suddenly produce a much more complex text. Sometimes growth seemed to be simply writing more

and longer texts; sometimes, it was writing texts of the same length, but with increasing complexity. Yet when one takes a step back and looks first at the children's early writing and then at their later efforts, these children's growth as writers is every bit as remarkable and wonderful as the other ways in which children grow.

### Summary of Results

This chapter has detailed the structures of writing, specifically, genres (forms of discourse), structures of text, and sentence patterns, identified in the writing of six first grade children. In this study:

1. Fifteen genres were identified (research question 3a):  
 Chronological - Basic Record, Expanded Record, Basic Record Series, Expanded Record Series, Recount, and Narrative;  
 Non-chronological - Label, List, Attribute Series, Couplet, Hierarchical Attribute Series, Word Play, Note or letter, Written Dialogue, and Picture Dialogue/Sound Effects.
2. Four of the fifteen genres were observed in the writing of all six subjects. These genres, Basic Record, Expanded Record, Label, and Attribute Series accounted for the bulk of the writing. Interactive forms were found only in the girls' writing (research question 5).
3. Overall, the group's writing showed a decrease in the most frequent genre, the Label, and an increase in both the complexity and variety of genres as the school year progressed (research

question 4). Children identified as “delayed” produced more complex genres later in the year in comparison to “advanced and “average” children. By year’s end, all children were able to write in the more complex genres, but the “delayed” children produced no narratives, the most complex chronological genre (research question 5).

4. Individual differences were noted in the frequency with which children wrote in the various genres (research question 5).
5. Single clause text structure was dominant in the first part of the school year. As the year progressed, children wrote texts with more complexity, with clause units joined in a variety of ways: coupled, centred, chained, or centred and chained (research questions 3b and 4). All children produced all types of text structures, but the sequence from simple to complex text structures varied with the individual child (research question 5). At year’s end, “advanced” and “average” children produced more chained texts, while “delayed” children produced more centered texts.
6. The children’s writing was more often than not accompanied by pictures, with individual differences found in the frequency with which writing and drawing were combined. In many instances the writer made direct reference to the picture with exophoric pronoun use and or arrows linking text and picture. In other instances, text was embedded in the picture to represent dialogue or sound effects. Exophoric reference decreased from the beginning to the end of the year in the writing of the “advanced” children (research question 4).

7. Simple, compound, and complex sentences were observed in all of the children's writing, with simple sentence structure accounting for the vast majority of sentences. Most sentences were assertions, with few questions and imperatives contained in the writing research question 3c).
8. Common sentence patterns were found to occur in three ways: as sentence beginnings, within-text sentence patterns and "sentence formulas" for creating texts (research question 3c). At the beginning of the year, "This is ...." was the dominant sentence beginning, but as the year progressed, this pattern diminished, with most sentences beginning with personal pronouns, and some beginning with temporal adverbials (research question 4).

## CHAPTER 6

### The Orthography of First Grade Writing

In this chapter, the results of orthographic analysis will be presented and discussed. Orthography is concerned with the ways in which written language is visually represented. In this study, two aspects of orthography are considered: punctuation and spelling. First, punctuation results will be presented, followed by the results of the spelling analysis, and finally, discussion of these two aspects of orthography.

#### Punctuation

In the analysis of the children's punctuation, three broad areas were examined: segmentation, punctuation marks, and capitalization. This section will begin with the results of the segmentation analysis, followed by punctuation marks and finally, capitalization.

#### Segmentation

As children learn to represent written language on a page, they need to develop an understanding of how written language is segmented into the units of words and sentences. From an examination of the entire corpus of writing, nine word segmentation categories and three sentence segmentation categories, developed from the research literature, were identified, as follows:

##### Word Segmentation:

1. Not all words represented;
2. No spaces between words;

3. Segmentation with hyphens;
4. Non-conventional spacing:
  - (a) Random chunks,
  - (b) Semantic chunks,
  - (c) Syllabic chunks;
5. Conventional word boundaries; and
6. Hyphenation between lines:
  - (a) Conventional (syllabic),
  - (b) Non-conventional;

Sentence Segmentation:

1. No segmentation ("run-on" sentences);
2. Non-conventional segmentation (e.g., sentence fragments); and
3. Conventional segmentation.

Examples of each of these segmentation categories from the writing of the children in this study are provided in Tables 23 and 24.

Distribution of segmentation types. Four of the five word segmentation types and two of the three sentence segmentation types were found in the writing of all six children. All of the children produced texts with not all words represented, and with both conventional spacing and non-conventional spacing that was semantic or syllabic in nature. Alan and Janet were the only two children to produce texts with random spacing. Alan and Janet also produced some texts with no spaces between words. Alan wrote the only text with hyphens separating the words in a sentence. Table 25 summarizes the distribution of both word and sentence segmentation types.

Table 23

Word Segmentation Categories and Examples

| Category                     | Example                                                                         |
|------------------------------|---------------------------------------------------------------------------------|
| 1. Not all words represented | MY MOM BNO<br>(My Mom plays the piano).                                         |
| 2. No spaces between words   | 4MODSNTRLARYEN.<br>(four more days until Hallowe'en)                            |
| 3. Segmentation with hyphens | KM CT-B-A-KN<br>(Kim could bring a kitten.)                                     |
| 4. Non-conventional spacing  |                                                                                 |
| (a) Random chunks            | IAETAHOANS FOR AN HS<br>NAMSBLADA (I got a Transformer.<br>His name is Bullet.) |
| (b) Semantic chunks          | WYCCAP (wake up)                                                                |
| (c) Syllabic chunks          | FRIC IN STIN (Frankenstein)                                                     |

| Category                        | Example                                                                                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5. Conventional word boundaries | <p>THS IS HALAWEN AND THE<br/>KRETR R OUT.</p> <p>(This is Hallowe'en and the<br/>creatures are out.)</p>                                                                            |
| 6. Hyphenation between lines    |                                                                                                                                                                                      |
| (a) Conventional                | <p>EVREY ONE IN MY FAM-<br/>LEE HES A YOOCALY-<br/>LEE AXEPT Y MUM.</p> <p>(Everyone is my family has a ukelele<br/>except my Mom.)</p>                                              |
| (b) Non-conventional            | <p>AND I GOT A YOOCALAL-<br/>EE LAST CHRISTMAS.<br/>AND MY DAD TOOT ME<br/>A FYOU CODSE.</p> <p>(And I got a ukelele last Christmas.<br/>And my Dad taught me a few<br/>chords.)</p> |

Table 24

Sentence Segmentation Categories and Examples

| Category                                                   | Example                                                                                                                                                      |
|------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. No segmentation ("run-on" sentence)                     | YESTERDAY WE MADE STONE SOUP TODAY WE ARE GOING TO EAT IT.                                                                                                   |
| 2. Non-conventional segmentation (e.g., sentence fragment) | THE SOCCER SEASON IS ALMOLST OVER. EVEN THOW THE SOCCER SEASON IS OVER. I AM STILL PLAYING SOCCER.                                                           |
| 3. Conventional segmentation,                              | TOBAY MY GRAMI IS CIMIN TOMI HYS. MYI GRAMI MIT M CICYS. ILICHR.<br><br>(Today my Grandma is coming to my house. My Grandma might make cookies. I like her.) |

Table 25

Distribution of Segmentation Types

|                              |                               | Subject            |   |   |   |   |   |
|------------------------------|-------------------------------|--------------------|---|---|---|---|---|
| Segmentation                 |                               | 1                  | 2 | 3 | 4 | 5 | 6 |
| <b>Word Segmentation</b>     |                               |                    |   |   |   |   |   |
| 1.                           | Not all words represented     | X                  | X | X | X | X | X |
| 2.                           | No spaces between words       | 0                  | X | 0 | 0 | X | 0 |
| 3.                           | Segmentation with hyphens     | 0                  | X | 0 | 0 | 0 | 0 |
| 4.                           | Non-conventional spacing      |                    |   |   |   |   |   |
|                              | (a) Random chunks             | 0                  | X | 0 | 0 | X | 0 |
|                              | (b) Semantic chunks           | X                  | X | X | X | X | X |
|                              | (c) Syllabic chunks           | X                  | X | X | X | X | X |
| 5.                           | Conventional word boundaries  | X                  | X | X | X | X | X |
| 6.                           | Hyphenation between lines     |                    |   |   |   |   |   |
|                              | (a) Conventional              | X                  | 0 | 0 | 0 | 0 | 0 |
|                              | (b) Non-conventional          | X                  | 0 | 0 | 0 | 0 | 0 |
| <b>Sentence Segmentation</b> |                               |                    |   |   |   |   |   |
| 1.                           | No segmentation               | X                  | X | X | X | X | X |
| 2.                           | Non-conventional segmentation | X                  | X | X | X | 0 | X |
| 3.                           | Conventional segmentation     | X                  | X | X | X | X | X |
| X    Occurred                |                               | 0    Did not occur |   |   |   |   |   |

Changes in segmentation throughout first grade. Changes were observed in segmentation throughout the school year. (Table 26 summarizes the distribution of word segmentation types.) At the beginning of the year, all of the children produced texts in which not all words were represented. This diminished, so that by year's end, only Janet omitted words. In all cases, the omitted words were functional words, such as articles, prepositions and personal pronouns, words that represent abstract rather than concrete concepts, for example:

This is [an] airplane.

I am going [to] space [in a] rocket.

Lindsey is coming over to [my] house. [Maybe my] Dad will pick us [up].

In most cases, the lack of functional words did not impede the decoding of the children's texts. However, it was difficult to match four of Janet's texts written during the middle term to the transcriptions dictated by Janet to the teacher and recorded in conventional writing.

All but two of the children (Janet and Alan) produced texts in which written representations of words were separated by spaces. Only a few of Janet's early texts (4%) had no spaces. Many of Alan's early texts (39%) had no spacing, but by year's end, Alan wrote all texts with spaces.

As the children learned to segment their ideas into written words, spacing between words was not always conventional. Non-conventional spacing was sometimes random in Janet and Alan's writing during the first two terms, but by the last term, no random spacing was observed in any of the children's writing. All of the children produced semantic and syllabic chunks in their writing

Table 26

Word Segmentation, Beginning, Middle, and End of Year

|                              |   | Subjects         |    |               |    |    |    |           |
|------------------------------|---|------------------|----|---------------|----|----|----|-----------|
| Percent of texts (frequency) |   | 1                | 2  | 3             | 4  | 5  | 6  | $\bar{X}$ |
| Not completely decodable     | B | 23               | 25 | 29            | 2  | 32 | 2  | 19        |
|                              | M | 0                | 16 | 18            | 3  | 9  | 3  | 8         |
|                              | E | 0                | 4  | 0             | 0  | 3  | 0  | 1         |
| Not all words represented    | B | 16               | 7  | 13            | 5  | 8  | 5  | 9         |
|                              | M | 0                | 3  | 0             | 0  | 5  | 0  | 1         |
|                              | E | 0                | 0  | 0             | 0  | 3  | 0  | 1         |
| No spaces between words      | B | 0                | 39 | 0             | 0  | 4  | 0  | 7         |
|                              | M | 0                | 16 | 0             | 0  | 0  | 0  | 3         |
|                              | E | 0                | 0  | 0             | 0  | 0  | 0  | 0         |
| Random chunks                | B | 0                | 18 | 0             | 0  | 12 | 0  | 5         |
|                              | M | 0                | 47 | 0             | 0  | 9  | 0  | 9         |
|                              | E | 0                | 0  | 0             | 0  | 0  | 0  | 0         |
| Semantic/syllabic chunks     | B | 18               | 5  | 20            | 9  | 16 | 16 | 14        |
|                              | M | 26               | 12 | 29            | 16 | 44 | 23 | 25        |
|                              | E | 18               | 96 | 46            | 22 | 26 | 35 | 41        |
| Conventional word boundaries | B | 48               | 7  | 38            | 84 | 28 | 77 | 47        |
|                              | M | 74               | 2  | 53            | 81 | 33 | 74 | 53        |
|                              | E | 82               | 0  | 54            | 78 | 68 | 65 | 5         |
| B Beginning of year          |   | M Middle of year |    | E End of year |    |    |    |           |

throughout the school year. Both types of chunks increased as the children grappled with representing more complex ideas in writing.

As the children progressed, they started to write longer texts with more than one sentence, which meant that they also had to learn to segment their ideas into sentences as well as words. (Please refer to Table 27.) During the first term, Matthew was the only child to write texts of more than one sentence in length, and he more often omitted segmentation marks (periods) than used them. During the middle term, the other children began to write more longer texts (53-74%) than one-sentence texts, and most of the segmentation was conventional. By year's end, all of the children except Alan produced all texts with more than one sentence, and the vast majority (93%) of Alan's texts contained more than one sentence. Segmentation between sentences was almost always conventional (84-96%).

### Punctuation Marks

Nine punctuation marks were observed in the corpus of writing:

period,

apostrophe,

comma,

hyphen,

question mark,

exclamation mark,

quotation marks,

colon, and

caret.

Table 27

Sentence Segmentation, Beginning, Middle, and End of Year

|                                                             |   | Subjects         |     |               |     |     |     |           |
|-------------------------------------------------------------|---|------------------|-----|---------------|-----|-----|-----|-----------|
| Percent of texts (frequency)                                |   | 1                | 2   | 3             | 4   | 5   | 6   | $\bar{X}$ |
| Texts with one sentence or<br>or less                       | B | 89               | 100 | 100           | 100 | 100 | 100 | 98        |
|                                                             | M | 38               | 44  | 47            | 27  | 26  | 40  | 37        |
|                                                             | E | 0                | 7   | 0             | 0   | 0   | 0   | 1         |
| More than one sentence,<br>No segmentation                  | B | 7                | 0   | 0             | 0   | 0   | 0   | 1         |
|                                                             | M | 19               | 9   | 3             | 0   | 7   | 0   | 6         |
|                                                             | E | 6                | 4   | 4             | 6   | 8   | 8   | 6         |
| More than one sentence,<br>Non-conventional<br>segmentation | B | 0                | 0   | 0             | 0   | 0   | 0   | 0         |
|                                                             | M | 0                | 3   | 3             | 3   | 0   | 23  | 5         |
|                                                             | E | 10               | 0   | 0             | 0   | 0   | 5   | 2         |
| More than one sentence,<br>Conventional segmentation        | B | 5                | 0   | 0             | 0   | 0   | 0   | 1         |
|                                                             | M | 43               | 44  | 47            | 70  | 67  | 37  | 51        |
|                                                             | E | 84               | 89  | 96            | 94  | 92  | 86  | 90        |
| B Beginning of year                                         |   | M Middle of year |     | E End of year |     |     |     |           |

In addition to these conventional marks, the children also produced graphic symbols to convey meaning. These included arrows and speech "balloons" connecting pictures and texts, and lettering for special effects, such as capitalization, enlarged letters and stylized letters. Figure 10 provides examples of graphic stylistics found in the children's writing.

Distribution of punctuation marks and graphic stylistics. The only punctuation mark or graphic observed in the writing of all children was the period. Five of the children used the apostrophe, and four children used the quotation mark. Hyphens, question marks, exclamation marks and carets were produced by three children. Matthew and Caitlin used commas in their writing, and Matthew produced the only colon in the corpus of writing.

The most common graphic stylistics were the speech "balloon" and arrow. Stylized letters were found in Alan, Brandon, and Lindsey's writing. To create particular effects, Matthew only used capitalization and enlarged lettering, and his writing was the only instance in which these features were observed. Table 28 summarizes the distribution of punctuation marks and graphic stylistics.

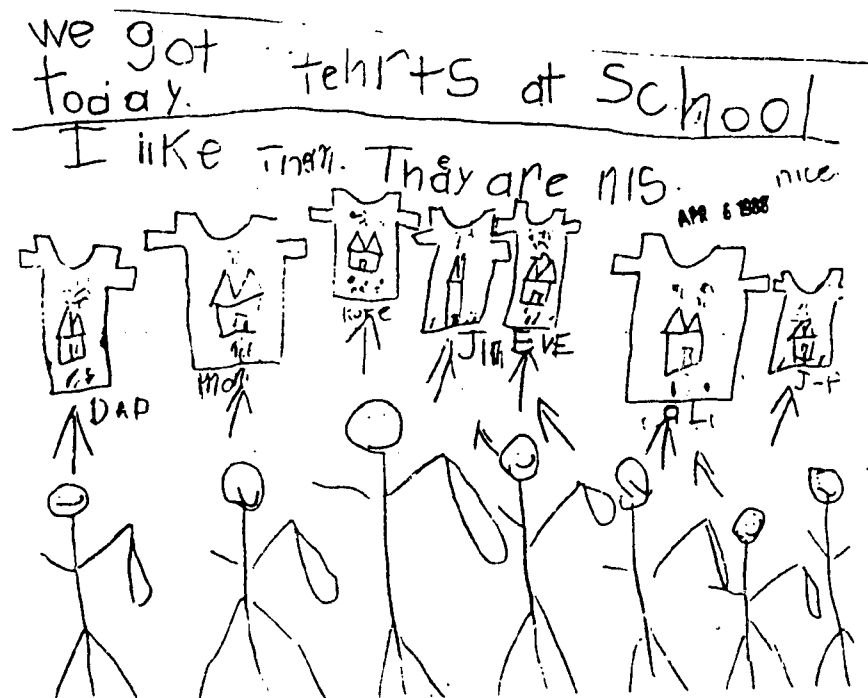
Period and apostrophe usage. All of the children used the period to end texts and to end sentences. Five of them (all except Janet) also occasionally used periods after a clause or phrase. Matthew and Caitlin also used periods in abbreviations and Matthew and Lindsey used periods after initials.

All of the children except Alan used apostrophes in their writing. Apostrophes for possession were more frequent than apostrophes in contractions. Four of the children also overgeneralized the apostrophe to

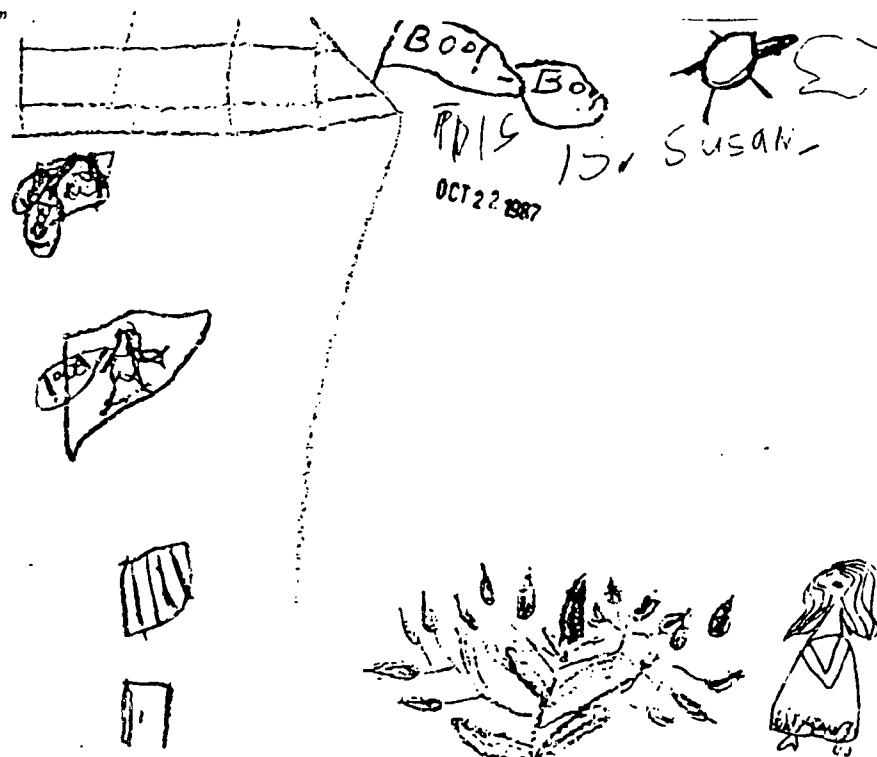
Figure 10

Graphic Stylistics

Arrow



Speech "Balloon"



## Capitalization for Effect

The man was DRACULA!!  
 Dracula ~~did~~ did ~~not~~  
 not let go.  
 David struggled

## Enlarged Letters

Yesterday I had a filling filled in. I had to have my mouth  
 frozen for three hours. This is <sup>2</sup>Noah's Ark.  
 IT IS HUGE!

APR 21 1988





situations where it is not used conventionally, for example, in plurals. Table 29 summarizes period and apostrophic usage.

Changes in punctuation throughout first grade. During the first term the only punctuation marks observed in the children's writing were periods, apostrophes, and hyphens. Periods were produced by all of the children in this term, but only Lindsey used apostrophes. Her apostrophes, however, were not used conventionally. Hyphens were observed in one text during the first term. In this instance, Alan used hyphens rather than spaces to segment his message into words.

During the middle term, question marks and exclamation marks appeared (in Caitlin's writing) and the first use of hyphens to segment a word between two lines was observed (in Matthew's and Caitlin's texts.) Commas, quotation marks, colons, and carets were not observed in the children's writing until the last term. Table 30 summarizes the distribution of punctuation marks throughout the school year.

In the corpus of writing, the first use of the period was after the last initial in Matthew's and Lindsey's names. These children also used periods after other children's initials later on the school year, and they were the only children in whose writing this use of the period was observed.

Subsequently, the period was used to end a text, whether or not the text was a sentence. Towards the end of the first term, Matthew began to write texts more than one sentence long, but he more frequently omitted the period at the end of the first sentence than used it. During the second term, all of the children wrote texts with two or more sentences, and used periods at the end of most of

Table 29

Period and Apostrophe Usage

|                   |                                | Subject |   |               |   |   |   |
|-------------------|--------------------------------|---------|---|---------------|---|---|---|
| Use               |                                | 1       | 2 | 3             | 4 | 5 | 6 |
| <b>Period</b>     |                                |         |   |               |   |   |   |
| 1.                | End text                       | X       | X | X             | X | X | X |
| 2.                | End sentence                   | X       | X | X             | X | X | X |
| 3.                | After initial                  | X       | 0 | 0             | 0 | 0 | X |
| 4.                | Abbreviation                   | X       | 0 | 0             | X | 0 | 0 |
| 5.                | After clause                   | X       | X | X             | X | 0 | X |
| 6.                | After phrase                   | X       | X | X             | X | 0 | X |
| <b>Apostrophe</b> |                                |         |   |               |   |   |   |
| 1.                | Possession                     | X       | 0 | X             | X | X | X |
| 2.                | Contraction                    | X       | 0 | 0             | X | X | 0 |
| 3.                | Overgeneralized (e.g., plural) | X       | 0 | X             | X | 0 | X |
| X      Occurred   |                                | 0       |   | Did not occur |   |   |   |

Table 30

Distribution of Punctuation Marks, Beginning, Middle, and End of Year

| Punctuation mark    | Subject         |     |     |     |     |     |
|---------------------|-----------------|-----|-----|-----|-----|-----|
|                     | 1               | 2   | 3   | 4   | 5   | 3   |
|                     | BME             | BME | BME | BME | BME | BME |
| 1. Period           | XXX             | XXX | XXX | XXX | XXX | XXX |
| 2. Apostrophe       | 0XX             | 000 | 0XX | 0XX | 00X | XXX |
| 3. Comma            | 00X             | 000 | 000 | 00X | 000 | 000 |
| 4. Hyphen           | 0XX             | X00 | 000 | 0XX | 000 | 000 |
| 5. Question mark    | 000             | 000 | 00X | 0XX | 00X | 000 |
| 6. Exclamation mark | 00X             | 000 | 000 | 0XX | 000 | 00X |
| 7. Quotation mark   | 00X             | 000 | 00X | 00X | 00X | 000 |
| 8. Colon            | 00X             | 000 | 000 | 000 | 000 | 000 |
| 9. Caret            | 00X             | 000 | 00X | 00X | 000 | 000 |
| B Beginning term    | X Occurred      |     |     |     |     |     |
| M Middle term       | 0 Did not occur |     |     |     |     |     |
| E End term          |                 |     |     |     |     |     |

them. (See also Table 27). At this time, Matthew began to use the period in abbreviations. During the last term, this use of the period was also noted in Caitlin's writing.

The first use of the apostrophe observed in this study, in Lindsey's writing, was non-conventional. Conventional use first appeared in possessives in four of the children's writing (all but Alan's and Janet's). Apostrophes used in contractions did not appear until the last term, and was observed only in texts written by Matthew, Caitlin, and Janet. Table 31 summarizes the distribution of period and apostrophe usage throughout the school year.

### Capitalization

From the analysis of the corpus of writing, six categories of text based on the amount of capitalization were identified:

1. All capitals.  
e.g., THIS IS A HUWS.  
(This is a house.)
2. Capitals with occasional lower case,  
e.g., THS ES A BiKTR OV A ARBLAN.  
(This is a picture of an airplane.)
3. Mixed capitals and lower case,  
e.g., THis is a HTDCASallL. I LiKe it. its niyt.  
(This is a haunted castle. I like it. It's neat.)



4. Lower case with occasional capitals (non-conventional),  
e.g., hse are slrd mountain. two of the mountain hve JYS.  
(These are coloured mountains. Two of the mountains have  
jewels.)
5. All lower case,  
e.g., is s tresrsrs  
(This is tyrannosaurus.)
6. Lower case with conventional capitals.  
e.g., My Gamathr is going to Vancouver. She is coming back on  
Satrday. ! ma sad.  
(My Grandmother is going to Vancouver. She is coming back on  
Saturday. I am sad.)

Distribution of capitalization. Only two of the categories were found in the writing of all six children: capitals with occasional lower case, and mixed capitals and lower case letters (Table 32). Five of the children produced texts entirely written in capitals, and five produced texts with conventional lower case letters and capitals. Only Brandon produced texts consisting entirely of lower case letters. Table 33 summarizes the distribution of texts categorized by capitalization throughout the school year.

Changes in distribution of capitalization. When examined from the point of view of capitalization, many changes took place in the children's writing. (Please refer to Table 33). During the first term, all categories of text classified by capitalization were found, with all capitals, capitals with occasional lower

Table 32

Capitalization

|                                                           | Subjects |                    |   |   |   |   |
|-----------------------------------------------------------|----------|--------------------|---|---|---|---|
|                                                           | 1        | 2                  | 3 | 4 | 5 | 6 |
| All capitals                                              | X        | X                  | 0 | X | X | X |
| Capitals with occasional lower case                       | X        | X                  | X | X | X | X |
| Mixed capitals and lower case                             | X        | X                  | X | X | X | X |
| Lower case with occasional capitals<br>(not conventional) | X        | X                  | X | 0 | X | X |
| All lower case                                            | 0        | 0                  | X | 0 | 0 | 0 |
| Lower case with conventional capitals                     | X        | 0                  | X | X | X | X |
|                                                           |          |                    |   |   |   |   |
| X    Occurred                                             |          | 0    Did not occur |   |   |   |   |

Table 33

Capitalization, Beginning, Middle, and End of Year

|                                                        |                   | Subjects |     |                |    |    |             |    |
|--------------------------------------------------------|-------------------|----------|-----|----------------|----|----|-------------|----|
| Percent of texts (frequency)                           |                   | 1        | 2   | 3              | 4  | 5  | 6           | X  |
| All capitals                                           | B                 | 48       | 11  | 0              | 0  | 10 | 5           | 12 |
|                                                        | M                 | 43       | 9   | 0              | 0  | 2  | 0           | 9  |
|                                                        | E                 | 0        | 0   | 0              | 0  | 0  | 0           | 0  |
| Capitals with occasional lower case                    | B                 | 39       | 45  | 2              | 58 | 54 | 12          | 35 |
|                                                        | M                 | 2        | 44  | 0              | 0  | 38 | 0           | 14 |
|                                                        | E                 | 0        | 0   | 0              | 0  | 0  | 0           | 0  |
| Mixed capitals and lower case                          | B                 | 14       | 39  | 29             | 19 | 32 | 36          | 28 |
|                                                        | M                 | 0        | 47  | 85             | 11 | 60 | 40          | 41 |
|                                                        | E                 | 0        | 100 | 58             | 0  | 82 | 14          | 42 |
| Lower case with occasional capitals (not conventional) | B                 | 0        | 5   | 33             | 19 | 2  | 40          | 17 |
|                                                        | M                 | 45       | 0   | 15             | 78 | 0  | 46          | 31 |
|                                                        | E                 | 39       | 0   | 10             | 69 | 7  | 30          | 26 |
| All lower case                                         | B                 | 0        | 0   | 16             | 0  | 0  | 0           | 3  |
|                                                        | M                 | 0        | 0   | 0              | 0  | 0  | 0           | 0  |
|                                                        | E                 | 0        | 0   | 0              | 0  | 0  | 0           | 0  |
| Lower case with conventional capitals                  | B                 | 0        | 0   | 20             | 5  | 2  | 7           | 6  |
|                                                        | M                 | 10       | 0   | 0              | 11 | 0  | 14          | 6  |
|                                                        | E                 | 20       | 0   | 4              | 31 | 0  | 5           | 10 |
| B                                                      | Beginning of year |          | M   | Middle of year |    | E  | End of year |    |

case, and mixed capitals and lower case occurring more frequently than lower case categories. Four of the children produced texts entirely in capitals during this term. Almost half (48%) of Matthew's texts were entirely capitalized, while approximately half of Alan's, Caitlin's and Janet's texts (45%, 58% and 54%, respectively) consisted of capitals with occasional lower case letters. Brandon, on the other hand, wrote with lower case letters more frequently (69%) than capitals. When children wrote in capitals with occasional lower case letters, the most frequent lower case letter used was *i*. Other lower case letters often included in texts written mostly in capitals were **a, e, g, s, m, and n**.

During the second term, texts written in all capitals and capitals with occasional lower case decreased, while for five of the six children, texts with mixed capitals and lower case letters increased. The letters most frequently written in capital letters were **B, D, P, K, L, T, and Y**. Most texts began with capitals, but omission of capital letters at the beginning of subsequent sentences was common, even though a period was used to end the previous sentence. During the second term, most of Brandon's texts consisted of mixed capitals and lower case (85%)

During the last term, none of the children produced texts written entirely in capitals, in capitals with occasional lower case letters, or entirely in lower case letters. Texts with mixed capitals and lower case letters were produced by the children from 0% (Matthew and Caitlin) to 100% (Alan). Brandon, and Janet wrote most of their texts in this manner (58% and 82%, respectively). Lower case with non-conventional capitals accounted for 0% (Alan) to 69% (Caitlin) of each child's texts in the last term, while lower case with conventional capitals

accounted for 0% (Alan and Janet) to 31% (Caitlin). As the children began to write longer and more complex texts, they often omitted capitals at the beginning of sentences (except the first sentence in the text), and on unfamiliar names. Familiar names, however, were almost always capitalized, as were days of the week, months, and special days. None of the children wrote on a regular basis with conventional capital and lower case letters by the end of first grade.

### Individual Differences in Punctuation

In this section, a vignette of each child's growth in punctuation is provided. This will be followed by an examination of the similarities and differences among the children as they learned to punctuate.

Matthew established 1:1 correspondence between oral and written words in September, and used mainly conventional spacing from the very beginning. Non-conventional word boundaries were semantic, usually related to confusion in compounding, for example:

PYPRMASHAY (paper mache), AFTERSCHOOL (after school);

NOUS PAPER (newspaper), ENA ONE (anyone);

or in syllabic chunks, for example, FOOT BALL, and A GEN (again). When he started to write sentences, in mid-November, he often did not segment them with a period during the first term, but by year end, most of his sentences ended with periods. Matthew used a wide range of punctuation marks conventionally in his writing during the last term (8 of the 9 observed in the corpus of writing).

Because pictures ceased to accompany his writing by the end of first term, he

did not use graphic marks linking text and picture. However, he did occasionally use capital letters and enlarged letters in his texts to create special effects. Matthew favoured writing in all capitals until January, when he switched over quite quickly to lower case writing. Matthew frequently wrote texts with more than one sentence, beginning the first sentence with a capital letter, but he sometimes omitted the capital letter at the beginning of subsequent sentences. He often used names of places and people not in his family or classroom, and these often did not begin with capital letters. Nevertheless, Matthew gained considerable control over the punctuation system in first grade.

Alan, on the other hand, had difficulty with conventional punctuation right through the year. He represented each word with a symbol by early October, but spacing was often absent or random. By mid-year almost half of his texts were randomly spaced, but by the end of February, semantic chunks started to appear in his writing. By year's end, spaces appeared in all of his texts, but almost all of them still contained non-conventional chunks. These chunks, however, were semantic or syllabic in nature. Yet once Alan started to write more than one sentence, he segmented his sentences conventionally, for the most part. Thus his sense of sentence developed well before his concept of word boundary was established. Apart from one text written in September, where he used hyphens to separate words, Alan used no punctuation marks other than the period. He did, however, use a variety of graphics (arrows, speech balloons, and stylized letters). By the end of the year Alan was still mixing upper and lower case letters, thus was not yet using conventional print.

Brandon began the year writing with mostly conventional spacing,

although as mid year approached he began to write longer texts and produced semantic chunks related to compounding, for example, FIENSASA (flying saucer) and ARMEEANT (Army Ant), and syllabic chunks, for example, A VER (ever) and HA LS (handles). As he began to write texts with more than one sentence, in January, his sentences were almost always conventionally segmented. As well as using periods to end sentences, he also used apostrophes for possession, and sometimes overgeneralized the apostrophe to plurals. He also used graphics: arrows, speech balloons and stylized letters. Although Brandon began the year writing mostly in lower case letters, the frequency of capital letters increased as he started to write longer texts (in December). He often used capitals to start nouns, verbs, adjectives, and adverbs, but not function words, yet he often omitted capitals at the beginnings of sentences. Thus Brandon had sorted out much of the conventional punctuation system in first grade, but had not yet gained control over it.

Like Matthew, Caitlin made rapid gains in controlling the punctuation system in first grade. From the beginning of the year, there was usually a 1:1 correspondence between oral and written words and she always used spaces for segmentation. By mid-year, as she began to write longer texts, she sometimes used non-conventional spacing, but her spacing was always semantic in nature, for example, FLAUT (fall out), PLAWER (play with), or syllabic, for example, IT PON MENT (appointment), SND RALA (Cinderella), RATS RAT (restaurant) and A LZABFS (Elizabeth). In January, when she started to write more than one sentence, her segmentation was almost always conventional. Like Matthew, she also she used a wide range of punctuation (8

of the 9 marks identified) conventionally. Unlike Matthew, however, because drawing was very much a part of her writing process throughout the year, she used arrows and speech balloons integrating pictures and texts. Like Matthew, she started to write with mostly capital letters at the beginning of the year, but by November she wrote more frequently in lower case letters with unconventional capitalization. By year's end, she did not yet have complete control over capitalization, but her major "error" was omitting capital letters from second and subsequent sentences in a text. Once this were mastered, her capitalization would be basically conventional.

Janet's punctuation development was somewhat similar to Alan's, because she also had difficulty establishing conventional word boundaries, although her writing contained proportionately fewer random chunks than semantic and syllabic chunks. Sometimes chunks had both random and syllabic aspects, for example:

A BAFL A FS AF (a bag full of stuff), and

MAI SAS DRGAT (my sister got).

By mid-year random chunks decreased and chunks were either syllabic, for example, POSH ON (potion), or semantic, SAKRGAM (soccer game), HTO (have to), and WISDR DA (yesterday). By the end of December, Janet was writing more than one sentence, with sentences usually segmented conventionally. Like Alan, her concept of sentence was becoming established before her sense of word boundary was firm. Besides periods, Janet also used apostrophes, question marks and exclamation marks; the only graphic she used was the speech balloon. Her writing was made up mainly of capital letters, and

she never used many lower case letters until the beginning of May, with capital letters more frequent in her writing than lower case letters through the end of the year. Thus, like Brandon, Janet had sorted out much of the conventional punctuation system in first grade, but had not yet gained control over it.

Lindsey used mostly conventional spaces in her writing from the beginning, although this is perhaps partly because she repeated the same type of text over and over. The few non-conventional boundaries observed in her writing were semantic or syllabic, such as PNITM (upon a time) or ROS IS (roses). In mid-year, as she began to write longer texts, more non-conventional boundaries appeared, especially syllabic ones, such as N TIL (until), RAN BO (rainbow) A PRT (apart) and BEF FOR (before). Sometimes she wrote a word or phrase several different ways. For example, "Easter egg" was written as ESDAGW, ES DAGW, and ES DAG W. In January, Lindsey started to write longer texts, and most of these were conventionally segmented into sentences. In addition to the period, Lindsey used the apostrophe in possessives and contractions. She also used arrows, speech balloons and stylized letters. Most of her writing was in capital letters in September, but by October, she switched over to lower case letters. Like Brandon, she started to write with more capitals as her texts became longer. Also like Brandon, at the end of the year she started once again to write more frequently in lower case letters, often omitting capitals at the beginning of second and subsequent sentences in a text, yet writing many words for concrete concepts with capital letters. Thus, like Brandon and Janet, although Lindsey had learned much about the conventions of punctuation, she did not yet have control over the punctuation system.

There were similarities in the children's development in punctuation:

- . all children produced semantic and syllabic chunks in addition to conventional word boundaries;
- . when the children started to write texts with more than one sentence, they learned to segment them with periods relatively soon afterwards;
- . sentence segmentation became conventional more quickly than word segmentation;
- . "sentence sense" was established before "word sense" was completely developed.

Differences appeared both in timing and the route to progress. Although all of the children produced semantic and syllabic chunks, Alan produced many random ones well into the year. At year's end, the writing produced by the children identified by the teacher as advanced in development, Matthew and Caitlin, was most conventional in terms of word boundaries (82% and 78% respectively) in comparison with the "average" and "delayed" children's writing.

There was a wide range in punctuation, with Matthew and Caitlin (the "advanced" children) punctuating almost conventionally by the end of the year, and Alan using only periods. In this study, the children identified by the teacher as advanced in development used more punctuation marks than the other children (eight of the nine identified) and were the only children to use commas, conventional hyphens, and periods after abbreviations. Use of graphic stylistics varied in this group of children as well, with Matthew using very few in his writing. Most of the children wrote in capitals early in the year, yet Brandon started out writing with lower case letters. In comparison to the other children,

Matthew and Caitlin (the “advanced” children) switched from writing in all capitals to lower case earlier in the year and by year’s end wrote more frequently with conventional upper and lower case letters. Yet Alan and Janet (the “average” children) had not sorted out capitalization by year’s end. In this study, there were both similarities and differences among the children as they learned to punctuate, with the children identified by the teacher as “advanced” in development punctuating their writing in more conventional ways than the “average” and “delayed” children.

### Spelling

In the analysis of spelling, two broad areas were examined, degree of conventional, or standard, spelling, and non-conventional or “invented” spellings. This section will begin with an examination of degree of conventional spelling, followed by an analysis of invented spellings.

#### Standard Spelling

A major task for young writers is to develop an understanding of the English spelling system. When one examines the writing of first graders early in the school year, many spellings look unconventional, and their texts may be quite difficult, sometimes impossible, to read. Yet by the end of first grade, many words are recognizable as standard or near-standard spellings. In this study, an analysis was undertaken to compare the degree of conventionality of spelling at the beginning of first grade with that of the end of first grade. This analysis was conducted in two ways:

1. by comparing the first twenty texts with the last twenty texts

produced by each child on a rating of decodability, that is, ability to be recognized, deciphered, or to be matched with the transcription recorded by the teacher shortly after the writing was completed.

Texts were rated as “not decodable”, “partially decodable” (at least some words able to be read) and “completely decodable” (all words recognizable, the complete message understandable); and

2. by comparing the first 100 words written with the last 100 words.

Words were rated as not identifiable, identifiable with non-conventional spelling, or identifiable with conventional spelling.

The number of different words in each segment was calculated.

and coded as non-conventionally or conventionally spelled.

All of the children except Caitlin produced some undecodable texts in September, and another 25% that were only partially decodable. Yet by year's end, all texts written were at least partially decodable, with an average of 75% completely decodable. Table 34 summarizes the results of the text analysis.

Lindsey was the only child who wrote more texts that could be completely decoded at the beginning of the year than at the end of the year. An analysis of the first 100 and last 100 words, however, revealed that she used only eighteen different words at the beginning of the year, five of which were her own name, **Mom**, **Dad**, **Susan** (her sister's name), and **love**, while at the end of the year her last 100 words contained 94 different words, thus increasing the chance of error. Analysis of these two sets of 100 words showed a decrease in non-identifiable words (18% to 1%), and an increase in conventional spellings (39% to 58%), even though the number of different words in the texts increased from a

Table 34

Decodability of Children's Texts, Beginning and End of Year

|                      | Subjects |    |    |    |    |    |           |
|----------------------|----------|----|----|----|----|----|-----------|
| Frequency            | 1        | 2  | 3  | 4  | 5  | 6  | $\bar{X}$ |
| First twenty texts   |          |    |    |    |    |    |           |
| Not decodable        | 2        | 5  | 2  | 0  | 7  | 1  | 2.8       |
| Partially decodable  | 5        | 8  | 10 | 1  | 6  | 1  | 5.2       |
| Completely decodable | 13       | 7  | 8  | 19 | 7  | 18 | 12.0      |
| Last twenty texts    |          |    |    |    |    |    |           |
| Not decodable        | 0        | 0  | 0  | 0  | 0  | 0  | 0         |
| Partially decodable  | 0        | 9  | 3  | 2  | 5  | 5  | 4.0       |
| Completely decodable | 20       | 11 | 17 | 18 | 15 | 15 | 16.0      |

mean of 36 to a mean of 69. Table 35 summarizes the results of the analysis of the first one hundred and last one hundred words.

As the children had more experience with writing, their repertoires of standard spellings increased, with Matthew making the most gains, from 15 standard spellings in the first 100 word segment, to 52 in the last 100 word segment. Analysis of Lindsey's writing shows only 17 standard spellings at year's end, but she used 94 different words in that 100 word segment. The other children all showed increases in standard spellings to more than of 20%. Table 36 provides a list for each child of standard spellings in both 100 word segments. This table also reveals that a number of function words are spelled conventionally by the end of first grade.

In this study, the two children identified by the teacher as advanced in development, Matthew and Caitlin, at year's end produced more completely decodable texts than the other children (Table 34) and had the greatest amount of conventional spellings in their writing (Table 35).

### Invented Spelling

Twelve words were identified that were used by all of the children. An analysis of these common words reveals a variety of non-standard spellings, with at least one child (usually Matthew) attaining conventional spelling of the word by the end of the school year. These twelve words include:

|        |          |         |              |
|--------|----------|---------|--------------|
| . came | . friend | . going | . got        |
| . have | . house  | . like  | . night      |
| . play | this     | . went  | . yeste day. |

Table 35

Conventionality of Children's Spelling

| Frequency                      | Subjects |    |    |    |    |    | X    |
|--------------------------------|----------|----|----|----|----|----|------|
|                                | 1        | 2  | 3  | 4  | 5  | 6  |      |
| <b>First one hundred words</b> |          |    |    |    |    |    |      |
| Not identifiable               | 17       | 20 | 28 | 3  | 42 | 3  | 18.8 |
| Non- conventional spelling     | 55       | 45 | 52 | 48 | 32 | 17 | 41.5 |
| Conventional spelling          | 28       | 35 | 20 | 49 | 26 | 80 | 39.7 |
| Number of different words      | 49       | 49 | 35 | 39 | 26 | 18 | 36.0 |
| - spelled non-conventionally   | 34       | 30 | 27 | 23 | 16 | 7  | 22.8 |
| - spelled conventionally       | 15       | 19 | 8  | 16 | 10 | 11 | 13.1 |
| <b>Last one hundred words</b>  |          |    |    |    |    |    |      |
| Not identifiable               | 0        | 5  | 0  | 1  | 2  | 0  | 1.3  |
| Non-conventional spelling      | 6        | 44 | 52 | 41 | 50 | 50 | 40.5 |
| Conventional spelling          | 94       | 51 | 48 | 58 | 48 | 50 | 58.1 |
| Number of different words      | 56       | 63 | 58 | 56 | 88 | 94 | 69.2 |
| - spelled non-conventionally   | 4        | 39 | 35 | 31 | 40 | 44 | 32.8 |
| - spelled conventionally       | 52       | 24 | 23 | 26 | 21 | 17 | 27.1 |

Table 36

Standard Spellings, Beginning and End of Year

| Matthew                     |                            |          |           |
|-----------------------------|----------------------------|----------|-----------|
| First 100 words<br>(n = 15) | Last 100 words<br>(n = 52) |          |           |
| a                           | a                          | hatching | out       |
| an                          | adventures                 | he       | smart     |
| ago                         | anything                   | his      | so        |
| airplane                    | are                        | holding  | some      |
| an                          | boy                        | in       | someone   |
| I                           | but                        | it       | spooky    |
| is                          | David                      | iegs     | struggled |
| Matthew                     | day                        | let      | tell      |
| mom                         | did                        | man      | that      |
| my                          | dig                        | Matthew  | the       |
| out                         | Dracula                    | Matthews | then      |
| Robert                      | dug                        | more     | there     |
| team                        | find                       | not      | time      |
| this                        | forest                     | of       | to        |
| to                          | get                        | on       | upon      |
|                             | go                         | once     | very      |
|                             | going                      | one      | was       |
|                             |                            |          | what      |

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| Alan                     |     |                         |       |
|--------------------------|-----|-------------------------|-------|
| First 100 words (n = 19) |     | Last 100 words (n = 24) |       |
| a                        | is  | a                       | I     |
| and                      | me  | am                      | is    |
| Alan                     | Mum | and                     | it    |
| bed                      | my  | Alan                    | my    |
| cat                      | on  | Andrew                  | on    |
| Dad                      | ten | are                     | star  |
| get                      | the | be                      | the   |
| going                    | to  | beach                   | this  |
| got                      | up  | big                     | to    |
| I                        |     | cat                     | tours |
|                          |     | fast                    | we    |
|                          |     | find                    | went  |

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Brandon

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First 100 words (n = 8)

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Last 100 words (n = 23)

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a  
Alan  
Brandon  
I  
is  
me  
this  
van

a  
an  
ant  
ants  
are  
be  
Brandon  
car  
he  
if  
in  
is  
it  
of  
saw  
the  
this  
to  
up  
was  
we  
you  
your

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Caitlin

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First 100 words (n = 16)

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Last 100 words (n = 26)

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|         |         |         |      |
|---------|---------|---------|------|
| a       | map     | a       | name |
| and     | Mom     | also    | no   |
| Caitlin | out     | and     | now  |
| Dad     | rainbow | Caitlin | O.K. |
| I       | space   | called  | one  |
| is      | the     | day     | out  |
| little  | to      | end     | that |
| love    | you     | go      | the  |
|         |         | he      | this |
|         |         | I       | to   |
|         |         | in      | was  |
|         |         | is      | we   |
|         |         | it      | went |

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| Janet                    |          |                         |       |
|--------------------------|----------|-------------------------|-------|
| First 100 words (n = 10) |          | Last 100 words (n = 21) |       |
| a                        | Janet    | a                       | it    |
| Erin                     | plant    | am                      | Janet |
| getting                  | scooter  | at                      | land  |
| I                        | this     | baby                    | me    |
| is                       | tomorrow | Dad                     | my    |
|                          |          | day                     | the   |
|                          |          | he                      | this  |
|                          |          | hi                      | to    |
|                          |          | I                       | was   |
|                          |          | in                      | you   |
|                          |          | is                      |       |

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Lindsey

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First 100 words (n = 11)

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Last 100 words (n = 17)

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|         |       |         |      |
|---------|-------|---------|------|
| a       | love  | a       | one  |
| am      | Mum   | and     | sad  |
| Dad     | Susan | cat     | the  |
| I       | this  | day     | they |
| is      | too   | had     | this |
| Lindsey |       | he      | time |
|         |       | in      | to   |
|         |       | it      | was  |
|         |       | Lindsey |      |

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All of the children's spellings for these twelve words are provided in Table 37.

**Came**, which did not appear in the children's writing until the second term, was spelled as KM, KAN, KAM, CAM, CYME as well as CAME. **Friend** was written a multitude of ways: FD, FND, FAD, FAND, FRND, FRAND, FOM, FROM, FREND, and FRIEND, while **friends** was written as FNS, FRNS, FAMZ, FANS, GANS, FRANS, FRINTS, and FORANS.

**Going** was spelled simply as G or GN; starting with a **d** (DOIMG), with a **y** (YIN) or with an **n** (NOIMG); with the vowel **a** (GAN, GAEN, GAMOG, GAMNIG, GAMNT, GAING, GOUAIMG, and GOUAING), with an **e** (EN, OEN, GEINM, GEING), or with an **i** (GING, GIING, GNING); as well as starting with the word **go** (GO, GOE, GOU, GON, GOEH, GOIN, GOIM, GOIMG, GOIEG, GOINING). Four of the children spelled **going** conventionally by the end of the year.

All of the words revealed confusion with vowels more frequently than with consonants. At the beginning of the year, vowels were sometimes omitted entirely. The children's spellings of the following common words provide examples of non-conventional vowel spellings (as well as conventional vowels):

**got** - GT, GRT, ET, GAT, GET, GIT, GUT, GIAT, GROT, GOAT, GOOT, GO, and GOT;

**have** - HF, HV, HZ, HFV, HVE, OF, HAF, HAV, HAY, and HAVE;

**house** - S, HS, GS, HR, HYS, HSS, HW'S, HAS, HAH'S, CAHS, HASH, HAWS, HUWS, HYYIS, HOS, HOSS, HOWSSY, HOYSE, HOUS, HOUE, HUOSE, and HOUSE;

**like** - LT, LCKH, LA, LAK, LAICK, LYEK, LIYK, LIC, LIK, LIIC, and LIKE;

Table 37

Children's Spellings of Common Words

| Subjects                  |         |          |         |         |          |         |
|---------------------------|---------|----------|---------|---------|----------|---------|
|                           | Matthew | Alan     | Brandon | Caitlin | Janet    | Lindsey |
| <b>came</b>               |         |          |         |         |          |         |
| Term 1                    |         |          |         |         |          |         |
| Term 2                    | CYME    |          |         | CAM     | KAM      | KAM     |
|                           | CAME    |          |         |         | KM       |         |
| Term 3                    | CAME    | CAM      | KAM     | CAM     | KAN      |         |
| <b>friend (friends *)</b> |         |          |         |         |          |         |
| Term 1                    | FRNS *  | FD       |         | FOZ *   |          |         |
| Term 2                    | FREND   | FOM      | FND     | FND     | FAMZ *   | FAND    |
|                           | FRENS * |          | FROM    | FRND    |          |         |
|                           | FRIEND  |          | FAD     | FRAND   |          |         |
|                           |         |          |         | FAND    |          |         |
|                           |         |          |         | FANS *  |          |         |
| Term 3                    | FRIEND  | FRINTS * | FNS *   | FANS *  | FORANS * | GANS *  |
|                           |         |          |         | FRNS *  |          | FAND    |
|                           |         |          |         | FRANS * |          |         |

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| Subjects |         |      |         |         |       |         |
|----------|---------|------|---------|---------|-------|---------|
|          | Matthew | Alan | Brandon | Caitlin | Janet | Lindsey |

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**going**

|        |       |         |       |       |        |         |
|--------|-------|---------|-------|-------|--------|---------|
| Term 1 | GOE   | GOING   | GEINM | GN    | G      |         |
|        | EN    |         | GOE   | GOING | GOING  |         |
|        | GAEN  |         |       |       |        |         |
|        | GOING |         |       |       |        |         |
| Term 2 | GOING | GON     | GOEH  | GOING | G      | GON     |
|        |       | GOIN    | GO    |       | GO ING | OEN     |
|        |       |         |       |       | GIING  | GAN     |
|        |       |         |       |       | DOIMG  |         |
|        |       |         |       |       | GOIM   |         |
|        |       |         |       |       | GOIMG  |         |
|        |       |         |       |       | NOIMG  |         |
| Term 3 | GOING | YIN     | GOIN  | GOING | GEING  | GOUAIMG |
|        |       | GOIN    |       |       | GING   | GOUAING |
|        |       | GO IN   |       |       | GOING  | GAMOG   |
|        |       | GOINING |       |       |        | GAMNIG  |
|        |       | GO      |       |       |        | GAMNT   |
|        |       | GOU     |       |       |        | GOIEG   |
|        |       |         |       |       |        | GAING   |
|        |       |         |       |       |        | GNING   |
|        |       |         |       |       |        | GOING   |

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| Subjects                |         |      |         |         |          |         |
|-------------------------|---------|------|---------|---------|----------|---------|
|                         | Matthew | Alan | Brandon | Caitlin | Janet    | Lindsey |
| <b>got</b>              |         |      |         |         |          |         |
| Term 1                  |         | GT   | GT      |         | GT       |         |
|                         |         | ET   |         |         |          |         |
|                         |         | GRT  |         |         |          |         |
| Term 2                  | GOT     | GROT |         | GOAT    | GIT      | GAT     |
|                         | GOOT    | GOT  |         |         | GAT      |         |
| Term 3                  | GOT     | GIT  | GAT     | GAT     | GAT      |         |
|                         |         | GO   | GET     | GOT     | GIT      |         |
|                         |         | GOT  |         |         | GIAT     |         |
|                         |         |      |         |         | GUT      |         |
|                         |         |      |         |         | GOT      |         |
| <b>have (have to *)</b> |         |      |         |         |          |         |
| Term 1                  |         | HZ   |         |         | OF       |         |
|                         |         |      |         |         | HF       |         |
| Term 2                  | HAVE    | HV   | HV      | HVE     | HV       |         |
|                         |         | HAY  | HAVE    | HAVE    | HTO *    |         |
| Term 3                  | HAVE    | HV   | HAVE    | HAVE    | HV       | HFV     |
|                         |         |      |         | HAFTO * | HAV      |         |
|                         |         |      |         |         | HF TO *  |         |
|                         |         |      |         |         | HAF TO * |         |

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| Subjects |         |      |         |         |       |         |
|----------|---------|------|---------|---------|-------|---------|
|          | Matthew | Alan | Brandon | Caitlin | Janet | Lindsey |

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|              |        |       |       |       |       |       |
|--------------|--------|-------|-------|-------|-------|-------|
| <b>house</b> |        |       |       |       |       |       |
| Term 1       | HUWS   | HS    | HS    | HS    | HS    | S     |
|              | HOWSSY |       |       |       | HR    | HS    |
|              |        |       |       |       | HOSS  |       |
| Term 2       | HUOSE  |       | HS    | HS    | HOSS  | HS    |
|              | HOUSE  |       | HAS   | HOUSE | HS    | GS    |
|              |        |       | HW'S  |       | HSS   | CAHS  |
|              |        |       | HOUSE |       | HSS   |       |
|              |        |       |       |       | HOS   |       |
| Term 3       | HOUSE  | HYYIS | HAWS  | HOUE  | HOUS  | HOUS  |
|              |        | HYS   | HAS   | HOUSE | HOUSE | HOS   |
|              |        |       |       |       | HOYSE | HAH'S |
|              |        |       |       |       |       | HAH   |
|              |        |       |       |       |       | HASH  |

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| Subjects |         |      |         |         |       |         |
|----------|---------|------|---------|---------|-------|---------|
|          | Matthew | Alan | Brandon | Caitlin | Janet | Lindsey |

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**like (likes \*, liked +)**

|        |         |        |        |      |       |         |
|--------|---------|--------|--------|------|-------|---------|
| Term 1 | LYEK    |        |        |      |       |         |
| Term 2 | LAECS * | LT     | LA     | LIKE | LAK   | LCKH    |
|        | LIYK    | LIK    |        |      | LIK   | LIK     |
|        |         | LIC    |        |      |       | LRACK * |
| Term 3 | LIKE    | LIC    | LAK    | LIC  | LIK   | LAICK   |
|        | LIKES * | LICT + | LAKS * | LIKE | LIK   | LIKE    |
|        |         | LICD + |        |      | LAT + | LIKE +  |
|        |         | LIKE   |        |      |       |         |

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**night**

|        |       |     |      |       |      |     |
|--------|-------|-----|------|-------|------|-----|
| Term 1 | NET   |     |      |       | WT   |     |
|        | NAYT  |     |      |       |      |     |
| Term 2 | NYT   |     | NNT  | NIT   | WAT  | ING |
|        | NAYT  |     |      |       |      |     |
|        | NIT   |     |      |       |      |     |
| Term 3 | NIGHT | NIT | NAUT | NIT   | NAIT |     |
|        |       |     |      | NIGHT |      |     |

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| Subjects |         |      |         |         |       |         |
|----------|---------|------|---------|---------|-------|---------|
|          | Matthew | Alan | Brandon | Caitlin | Janet | Lindsey |

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**play (played \*, playing +)**

|        |           |       |        |         |           |      |
|--------|-----------|-------|--------|---------|-----------|------|
| Term 1 | PL        |       | BLAT + |         |           |      |
|        | BLED *    |       |        |         |           |      |
|        | PELAD *   |       |        |         |           |      |
|        | PLEY      |       |        |         |           |      |
|        | PLANY +   |       |        |         |           |      |
| Term 2 | PAY       | PO +  | PLA    | PLA     | PLA       |      |
|        | PAYD *    | PLAY  | PLAUA  | PLAD *  | PLAD *    |      |
|        | PLEY      | PWD * | PLA    | PLAY    |           |      |
|        | PLAYN +   |       |        |         |           |      |
|        | PLAN +    |       |        |         |           |      |
|        | PLAY      |       |        |         |           |      |
|        | PLAYD *   |       |        |         |           |      |
| Term 3 | PLAY      |       |        | PLAY    | PLA       | PAAM |
|        | PLAYED *  |       |        | PLAYD * | PLAD *    |      |
|        | PLAYING + |       |        |         | PLAEING + |      |
|        |           |       |        |         | PLAING +  |      |
|        |           |       |        |         | PLAY      |      |

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| Subjects |         |      |         |         |       |         |
|----------|---------|------|---------|---------|-------|---------|
|          | Matthew | Alan | Brandon | Caitlin | Janet | Lindsey |

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**this**

|        |      |       |       |      |      |      |
|--------|------|-------|-------|------|------|------|
| Term 1 | THIS | IS    | IS    | S    | THIS | VS   |
|        | TSE  | DEC   | ES    | SI   | FS   | THS  |
|        | THS  |       | S     | THS  | SF   | THIS |
|        | GS   |       | T'S   | THIS | U    |      |
|        | THIS |       | THS   |      | F    |      |
|        |      |       | DS    |      |      |      |
|        |      |       | TS    |      |      |      |
|        |      |       | THIS  |      |      |      |
| Term 2 | THIS | DAZ   | THIS  | THIS | VASS | THIS |
|        |      | DIS   | THEIS |      | THIS |      |
|        |      | DSI   |       |      | THSI |      |
|        |      |       |       |      | TASI |      |
| Term 3 | THIS | DIS   | THI   | IS * | THSI | THIS |
|        |      | THIS  | THIS  | THIS | THIS |      |
|        |      | THS   |       |      |      |      |
|        |      | TH IS |       |      |      |      |
|        |      | THIS  |       |      |      |      |

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\* in the phrase "this week" in the middle of the text

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| Subjects |         |      |         |         |       |         |
|----------|---------|------|---------|---------|-------|---------|
|          | Matthew | Alan | Brandon | Caitlin | Janet | Lindsey |

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**went**

|        |      |      |     |        |      |     |
|--------|------|------|-----|--------|------|-----|
| Term 1 | WAT  | WUNT |     |        | Y    |     |
|        | WYNT | N    |     |        | V    |     |
|        |      | WNT  |     |        | YIT  |     |
|        |      |      |     |        | YAT  |     |
|        |      |      |     |        | YAN  |     |
|        |      |      |     |        | WHT  |     |
| Term 2 | WENT | YTI  | WT  | WANT   | WAGT |     |
|        |      | WNT  |     |        | WAT  |     |
|        |      |      |     |        | WIT  |     |
| Term 3 | WENT | YOT  | WOT | WAN'T  | WAT  | WAT |
|        |      | YIN  |     | WIA NT |      |     |
|        |      | YT   |     | WANT   |      |     |
|        |      | YIT  |     | WENT   |      |     |
|        |      | WN   |     |        |      |     |
|        |      | WINT |     |        |      |     |
|        |      | WET  |     |        |      |     |
|        |      | WENT |     |        |      |     |

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| Subjects         |            |            |         |           |          |         |
|------------------|------------|------------|---------|-----------|----------|---------|
|                  | Matthew    | Alan       | Brandon | Caitlin   | Janet    | Lindsey |
| <b>yesterday</b> |            |            |         |           |          |         |
| Term 1           | EASTR      |            |         |           | STD      |         |
|                  | EHSTRDEY   |            |         |           | YRDYA    |         |
|                  | YASTR DAY  |            |         |           |          |         |
|                  | YASTR      |            |         |           |          |         |
| Term 2           | YASTERDAY  | ERSD       |         | EASDR DAY | WISDR DA |         |
|                  | YASTER DAY | EI S TR DM |         |           | YASDRDY  |         |
|                  | YESTERDAY  |            |         |           |          |         |
| Term 3           | YESTERDAY  | EI SR DIY  | YADRDA  | EASTR DAY | YASDRDAY | ESDDAY  |
|                  |            | YES TRORA  |         | YESTRDAY  | YASTRDAY |         |
|                  |            | YISTR BA   |         |           |          |         |

**night** - WT, WAT, NNT, ING, NET, NYT, NAYT, NAUT, NAIT, NIT and NIGHT;

**play** - PL, PLEY, PAY, PLAUA, PAAM, and PLAY.

The digraph **th** representing the phoneme /ð/ presented a particular problem, since the children could not use a letter name strategy (Read, 1975) to figure out how to represent /ð/. In the spelling of **this** sometimes a single letter was used (S, F, or U), one consonant and one vowel (SI, IS, ES), two consonants (FS, VS, GS, TS, DS), the consonant **d** (DS, DES, DIS, DSI, DAZ), a **t** or a **v** (TIS, TASI, VASS), and finally, **th**, as in THS, THSI, THEIS, and THIS.

The phoneme /w/ also presented confusion, since it is contained in the name of the letter **y**. Thus, children sometimes spelled **went** with a **y** (Y, YT, YIT, YTI, YAT, YAN, YIN, YOT) and sometimes with a **w** (W, WN, WT, WNT, WHT, WAT, WANT, WAGT, WIT, WINT, WIAN, WOT, WUNT, WYNT, WET, and WENT).

The word **yesterday**, however, posed the most difficulty for the children, perhaps because it is a relatively long word with three syllables, or maybe because the phoneme /y/ is not contained in the names of any letters. Or perhaps it is because of the **er** segment. Sometimes the word was begun with an **e**, as in EASTR, ERSD, ESDDAY EHSTRDEY, EI SR DIY, EASDR DAY, EASTR DAY. Sometimes it was begun with **yas**, as in YASTR, YASTR DAY, YASTRDAY, YASTER DAY, YASTERDAY, YASDRDY, and YASDRDAY. And sometimes it was spelled simply, as in STD, YRDYA, or YADRDA.

Some distinct differences were found between early and later non-conventional spellings:

- . early spellings sometimes consisted of a single letter or pair of consonants;
- . later spellings contained more letters than earlier spellings, with two and three syllable words containing proportionately more letters than one syllable words;
- . two and three syllable words were sometimes segmented between syllables (e.g., GO ING and YES TER DAY);
- . later spellings showed an attempt to represent each phoneme;
- . consonants became more conventional in later spellings;
- . visual markers or “silent letters” such as *e* endings were more likely to be included in later spellings;
- . later spellings matched conventional spellings more closely, thus making the children’s texts easier to read, even though the spelling may not be standard.

Analysis of the spellings of these common words also showed differences between the children identified by the teacher as “advanced” and the rest of the group, with the “advanced” children spelling more words conventionally by year’s end (Matthew, 12/12, Caitlin, 9/12) than the other children (Table 37).

### Individual Differences in Spelling

Similarities and differences were noted in the development of spelling. In this section, beginning with Matthew, I will describe each child’s growth in

spelling, specifically, his or her ability to segment and represent phonemes, specifically:

- . consonants,
- . two consonant clusters,
- . vowels,
- . diphthongs, and
- . vowels with r.

I will then examine the similarities and differences among the children as they learned to spell.

Matthew's texts indicate the ability to segment speech into phonemes and knowledge of letters used to represent most consonants was established by the end of the first term, with mostly conventional usage from the very earliest identifiable words. There were a few exceptions such as confusion of /b/ for /p/, /f/ for /v/, /s/ for /z/, and /š/ for /č/, as shown in the following examples:

- /p/ September - BNO (piano),  
October - BIKTR, PER (picture), BLED (played),  
November - PEIRIT (pirate), PELAD (played);
- /v/ October - FAMPYR (vampire),  
January - VITEO (video);
- /z/ October - GODZILA (Godzilla),  
November - GOCŠILLA (Godzilla);
- /č/ December - CHELOW (cello) ,  
January - TUSHT (touched), WOSH (watch),  
February - CHINUTAWN (Chinatown), WOCH (watch).

Initially, Matthew overgeneralized the use of **k** to represent /k/, as in:

/k/    October - KKEN (kicking), KIGKOG (King Kong),  
          November - KAN (can),  
          December - CAVER (cover), CONCERT (concert).

The conventions for representing /y/ and /ɪ/ were the last consonant phonemes to develop, as these examples show:

/y/    October - EARE (year),  
          November - EASTR, EHSTRDEY, YASTR DAY (yesterday);  
  
 /ɪ/    September - GOE (going),  
          October - GAEN, (going), KIGKOG (King Kong),  
          November - TECHEEN (teaching), PLANY (playing), GOING  
          (going),  
          January - PLAN (playing), FEDING (feeding).

Matthew's first attempt, BFRA (brother), to represent both consonants in two consonant clusters was not conventional, but this was the only instance of error related to two consonant clusters.

Matthew found vowels somewhat more confusing than consonants. However, by November, he had sorted out /e/ (e.g., GAVE), /o/ (e.g., HOL, for hole), /æ/ (e.g., FAMPYR for vampire), and /a/ (e.g., NOT); by January, /i/ (e.g., TEM for team), /ɛ/ (e.g., NECSTE for next), and /ʊ/ (e.g., WOOD for would); and by February, /I/ (e.g., SIKE for sick). At the year's end, his writing still showed confusion with the representation for /u/ (e.g., NOUS for news), /ð/ (e.g., CUSIN for cousin, SOMER for summer) and /ɔ/ (e.g., COLLD for called).

Vowel diphthongs showed a similar pattern. Representations for /ay/ (e.g., MIT for might), /eI/ (e.g., PLAY), and /au/ (e.g., HOUSE) were established by January. Matthew's representation of /Iu/ reveals his phonemic segmentation ability, as the following examples illustrate:

November - EWST (used),

January - YOOALALEE (ukelele), FYO (few),

February - MYUSSEM (museum),

April - CUNPYUTER (computer),

but later in April, he used the conventional form, HUGE for huge.

Vowels with r caused Matthew little difficulty, as the following examples show:

/a r/ November - PORDE (party),

February - PARK (park);

/ɔ r/ January - CODSE (chords), FORTH (fourth);

/ɔ̃ r/ November - BRRDEY, BRITHDAY (birthday),

January - BIRTHDAY (birthday)

/ɜ̃ r/ November - SOOCR, SOCCER (soccer); BROTHHR, BRATHER (brother).

Because Matthew was able to segment speech into phonemes and represent most of them conventionally, his writing is easily decoded by a reader, even multisyllabic words such as DUSCRESHINERY (discretionary), UNAVARSETY (university), and CUNADEIN (Canadian). Thus, at the end of first grade, Matthew had the symbol system for English spelling well in hand.

Alan learned to represent most of the consonant phonemes by January, with the exception of /w/, /y/, /ŋ/, /ð/, /θ/, and, like Matthew, he had to sort out **k** and **c** (e.g., KAMD for candy). During the first two terms, Alan used **w** to represent /w/ (e.g., WININ for winning) and **e** to represent /y/ (e.g., ERSD for yesterday). Yet when he discovered that **y** was used to represent /y/, he overgeneralized and began to use **y** also to represent /w/, for example, YIN (went) and YEC (week). By year's end, he still did not use **th** consistently for /ð/ (e.g., ZAR for there) and /θ/ (e.g., WIS for with), and used **n** to represent /ŋ/ (FIDIN for fighting).

Throughout the entire year, two consonant clusters with **r** were not represented conventionally in Brandon's writing, as the following examples illustrate:

- /pr/ April - BRS (presents);
- /tr/ May - SHRARP (trap),  
June - JRAN (train);
- /dr/ March - JRAGIN (dragon);
- /kr/ February - KRISMIIS (Christmas);
- /θr/ March - FRO (throw).

By January, Alan used /e/ (e.g., LAK for lake), /o/ (e.g., GODN for golden), and /æ/ (e.g., LAND) conventionally. Initially he used **e** to represent /i/ (e.g., FOTEN for fourteen), but later in the year began to use **y** (e.g., SLYP for sleep). By March, he was using the conventional **i** for /i/ (e.g., VI EO for video), and **o** for /a/ (e.g., POPCON for popcorn), and by June, **e** for /ε/ (e.g., WENT). Yet /ə/

(e.g., KLIBHYS for clubhouse), /ʊ/ (e.g., GID for good), and /ɔ/ (e.g., HNTDD for haunted) were not conventional by June.

The diphthongs /ay/ (e.g., LIC for like), /oʊ/ (e.g., TOMOOMO for tomorrow), and /eɪ/ (e.g., TODAY) were established by February, while /aʊ/ (e.g., MIWNI for mountain) and /ɪu/ (e.g., NIO for new) were not observed in conventional form. Neither were vowels with r observed conventionally, with the exception of /ar/ in STAR, written in June, as the following examples illustrate:

/ar/ April - RME (army),

/ɔr/ April - CANCRT (Concord),

/ɝr/ April - BRSDA (birthday), and

/ɜr/ April - AFTR (after).

By the end of the year, Alan was beginning to represent most, but not all, phonemes, when he wrote DISLEYLAND (Disneyland), MADHON MIWNTIN (Matterhorn Mountain) and ACTVIDE (activity). Thus, he was gaining some control over the English spelling system, but still had much to learn.

Like Matthew and Alan, Brandon's writing shows some confusion between /p/ and /b/ during the first term, for example:

/p/ October - BLAT (playing), PPK PACH (pumpkin patch);

/b/ November - BMB (baby), POK (book).

Throughout the year, Brandon used both **k** and **c** for /k/, but not always conventionally. Some phonemes were not observed in conventional representation, particularly /ŋ/, (e.g., LAN for long), /θ/ (e.g., TINS for things)

and /ð/ (e.g., TAY for they). Yet he always used conventional symbols for /š̌/, /č̌/, and /ǰ/, as in MRSHMALO (Marshmallow), CHAK (chick), and PJAMIS (pyjamas). Two consonant clusters with r were sometimes, but not always, conventional, as shown in the following examples:

- /tr/    October - TRKRTRT (trick or treat),  
          December - JRE (tree), RASFURMRS (Transformers),  
          February - CHRIEN (trying),  
          May - GAP (trap);
- /dr/    March - DAGIN, DRAGIN (dragon);
- /kr/    November - CRKODIL (crocodile)  
          December - CRS, KRSM, KRRSFMS (Christmas);
- /gr/    October - GRAVD (graveyard),  
          March - GEYOR (grow), GREN (green);
- /fr/    January - FND, FROM (friend),  
          February - FAD (friend), and  
          March - FNS (friends).

By January, Brandon used appropriate vowels to represent /e/ (e.g., JALE for jail), /i/ (e.g., SLEP for sleep), /æ/ (e.g., FAKOHSN for Frankenstein), /o/ (e.g., GOST for ghost), and /u/ (e.g., BOOM). However, the other vowels were often written non-conventionally, as the following examples illustrate:

- /ɛ/    January - GAT (get), LATR (letter),  
          February - ENAME'S (enemies), RAD (red), SOTR (centre),  
          March - EG (egg),  
          May - WAN (when);

/I/ January - HES (his), SAT (sit), LATO (little),

February LAV (live), SBIN (spring),

March - KINKON (King Kong), SONH (thing), WALL (will),

April - LAZRD (lizard), NANJA (Ninja),

May - WALL (will), WAF (with);

/a/ December - MASAS (monsters),

January - LAN (long), NE BATE (anybody),

February - NAT (not), RAK (rock);

/ / December - ANT (until),

January - KAMS (comes), SAMING (coming),

April - JAST (just),

May - ANEDRGAD (underground), PAMP (pump), UP (up).

Diphthongs were not always conventional in Brandon's writing, but by February /ay/ (e.g., SIN for sign), /eI/ (e.g., HLDAIS) and /ou/ (e.g., A GO for ago) were regularized. Other diphthongs were not observed in conventional form in Brandon's writing, specifically /au/ (e.g., ARAD for around), /ɔI/ (e.g., DASRO for destroy), and /Iu/ (e.g., NOOT for knew). By May, Brandon wrote some vowels followed by *r* in conventional form, but not others, as the following examples illustrate:

/Qr/ CAR (car), ARMEE (army),

/ɔr/ FOR (for), DOOR (door), WOR (war),

/ɔ̃r/ JERNES (journeys), WODS (words),

/ʒ̃r/ A VER (ever), ESTOR (Easter), FIENSASA (flying saucer).

By the end of the year, Brandon was able to segment the phonemes in words and represent most of them in near conventional form, for example, TRANASORSRAKS (Tyrannosaurus Rex), DINESOS (dinosaurs), and DÁZIDID (decided). Like Alan, he had acquired some control over the English spelling system, but was still “inventive” in his spelling.

Caitlin’s progress in spelling was similar to, but not as advanced as, Matthew’s. By the end of January, she was able to segment words into phonemes and used conventional consonants, with the exception of /y/ (e.g., EASDRDAY, yesterday), /š/ and /č/, as the following examples illustrate:

- /š/    October - SHP (ship), BHF (bush),  
        January - HAPMLA (shopping mall), HEP (ship),  
        February - CRAS (crash), FAHING (fishing), HOS (shoes),  
        March - SIE (she), WEH (wish),  
        June - HRLT’S WAB (Charlotte’s Web);
- /č/    September - PCHR (picture),  
        November - PAHR (picture), WAHING (watching),  
        January - CAH (catch),  
        February - FRANN (French), WAH (watch),  
        March - LANH (lunch), TEHRS (teachers),  
        June - BECH (beach).

Yet two consonant clusters with r posed few problems for Caitlin.

Caitlin wrote the appropriate vowels for /e/ (e.g., RAMBW for rainbow), /i/ (e.g., QENE for queen), /o/ (e.g., HOL for hole), and /æ/ (e.g., HALAWEN for Hallowe’en). She wrote a single o for /u/ (e.g., SNOPE for Snoopy), but oo for

/ʊ/ (e.g., BOOKS). Other vowels, specifically /ɛ/, /ɪ/, /a/, and /ə/ were not always conventional in Caitlin's writing, as shown in the following examples:

/ɛ/ January - WANT (went), END (end),

February - RAD (red), VAT (vet),

May - LAFT-OVR (left-over), CAPT (kept),

June - FALL (fell), WANSDAY (Wednesday), FRANS (friends),

WENT;

/ɪ/ December - SATR (sister),

February - HES (his), LITTLE (little),

March - PAG (pig), MASST (missed),

May - WATH, WETH (with);

/a/ December- LOST (lost), MASR (monster),

January - GOT (got)

February - GOAT, GAOT (got),

June - CANRT (concert);

/ə/ October - BTRFLIS (butterflies),

December - SAMWNI (someone), SNE (sun),

February - FAN (fun), CAMING (coming),

March - WANDR (wonder), LANH (lunch),

June - SAMFEN (something), DACLENN (duckling).

To spell words with diphthongs, Caitlin used *i* for /ay/ (e.g., SLIMR for Slimer),

**ay** or **ey** for /eɪ/ (e.g., PLAY, BALEY), **o** and/or **a** for /au/ (e.g., MOTN and

MANTIN for mountain, BRAONES for Brownies), **o** for /ɪ/ (e.g., IT PON MET for

appointment), and **o** or **u** for /Iu/ (e.g., BUTFL for beautiful, MOSEM for museum). When Caitlin wrote words that have vowels with r, she usually omitted the vowel, as in the following examples:

/a<sup>r</sup>/ PRD (party), PRC (park), HRTS (hearts), BRCT (barked), FRMR (farmer);

/ɔ<sup>r</sup>/ HRARR (horror), SDORE (story), MRNEN (morning), BEFOR (before);

/ɔ<sup>r</sup>/ PRSN (person), BRFTDAY (birthday), NRVS (nervous), BRND (burned);

/ɔ<sup>r</sup>/ NVR (never), OVR (over), SATRDAY (Saturday), PAPR (paper).

Nevertheless, Caitlin was able to segment words and represent them, even when the words were multisyllabic, such as QENE ALZABFS (Queen Elizabeth) or SND RALA (Cinderella), REFACHING (reflection), or RATS RAT (restaurant). Of the three girls, Caitlin's spelling was the closest approximation to conventional spelling.

Janet's spelling, on the other hand, was probably the least conventional in this study. Janet was able to represent some of the consonants conventionally: /p/, /b/, /t/, /d/, /h/, /l/, /r/, /s/, and /j/. She always used **k** to represent /k/, for example, KABL (cable) and KILAMD (cloud). She confused several sets of related phonemes, especially /f/, /v/, /ð/, and /θ/; /m/ and /n/; /w/ and /y/; and sometimes /š/ and /č/; as shown in the following examples:

/f/ FIIL (flying), VARH (fun);

/v/ VATT, VAT (vet), VARE (very), THATYOTT (video taped);

/ð/ FAO (threw), VAK (think), WAF (with), FAT (thought);

/θ/ FS (this), V (the), VAR (there), TH (there);

/m/ NARE (Mary), NAE (me), MAKL (Michael);

/n/ MO (new), MISS (nice), MAT (not);

/w/ YIT (went), A YA (away), WAL (will), YE (we), YAZ (was), YAS  
(once);

/v/ WISDR DA, YASDRDAY (yesterday);

/ʃ/ HO (shoe), CHOS (shoes), POSH AM (potion), SEN (she);

/tʃ/ SPAHT (scratched), WACHT, WASHT (watched), BECH (beach).

By mid-year, she was able to represent some two consonant clusters with **r**, but not others:

/pr/ PRATE (pretty), PRASAS (princess);

/br/ BRAT (brought), BRAON (brown);

/tr/ SHRE, THEE, TREE (tree);

/dr/ JIV (drive), JAS (dress);

/kr/ CASMAS (Christmas), KRI (cry);

/gr/ GAPA, GRAMPA (Grandpa), GAMA, GRAMA (Grandma);

/fr/ FAMZ, FORANS (friends);

/θr/ FAO (threw).

Most of the difficulty in reading Janet's spellings, though, was a result of her non-conventional representation of vowels, with /e/, /o/, and /æ/ the most conventional vowels (e.g., GAV for gave, ROSIS for roses, KAMRA for camera). Janet usually represented /i/ with **e**, especially at the end of words (e.g., LADE

for lady), but she sometimes in the middle of a word used **y** (e.g., SY for see), or **a** (e.g., PAPL for people). She used both **a** and **o** to represent /u/, for example, SOKC and SGOAL (school), MAFING and MOVIMG (moving), and BAO (blue).

The vowels that were the least conventional were /ɛ/, /I/, /a/, and /ə/, as the following examples illustrate:

/ɛ/ PAFAATNST (present), ALF (elf), SATR (centre), ANE (any), WAN (when);

/I/ GAF (give), PAKIMG (picking), WAGLE (wiggly), FAGINGR (finger);

/a/ LAD (lot), GIT (got), DALAR (dollar), GUT (got), LAM, LAI (long);

/ə/ KAVAN (cousins), CAWIMG (coming), BAT (but), HAME (honey).

In fact, in most cases, the vowel Janet used was **a**, regardless of the vowel phoneme in the word. Janet also used **a** to represent many diphthongs, such as /ay/ (e.g., MAKL and MIKLL for Michael, TAM and TM for time, MAIT and NAIT for night), /au/ (e.g., KLAMD for cloud, FOD and FAD for found, FLAWR and FOWR for flower), / I/ (e.g., BAOE, BOY, BAY for boy), and /Iu/ (e.g., MO and MAO for new, BOTTFL for beautiful, MOSAI for music).

Janet often used **a** with **r** to represent various vowels with **r**, as shown in the following examples:

/ɑr/ PARD, PRDINE (party), GARDAN (garden);

/ɔr/ KEBAD (keyboard), MARMIMG (morning) SDAR (store), STORE (story);

/ɔr/ JABL (gerbil), ARLR (early), WRALD (world), LARD, LARND (learned).

/ʒʳ/ DALAR (dollar), KALAR (colour), KALRS (colours);

At other times, a vowel was omitted, for example PRSAN (person), PRPL (purple), GRL (girl), BRGKING (Burger King), HRTS (hearts), POTR (pointer), and FRMR (farmer).

By the end of first grade, Janet was able to represent multisyllabic words such as MAR A KL (miracle), AKSDAT (accident), and KMRSHALS (commercials), which reveals her basic understanding of spelling. However, because she used mostly the letter **a** for all vowel phonemes, her spelling was, at the end of first grade, the least conventional in the group of six children.

An analysis of Lindsey's spelling shows basically conventional representation of most consonants, with the exceptions of /y/, /ŋ/, /θ/, /ð/, and /č/ as shown in the following examples:

/y/ ESDDAY(yesterday), YES (yes), YOU (you);

/ŋ/ LAW (long), KNMON, KANIM, KAMN (king), FITING (fighting);

/θ/ HAK (think), THROU, SHROU (through);

/ð/ DAAR, THR (there), THIS (this);

/č/ GACKRS (checkers).

However, when representing two consonant clusters with **r**, Lindsey often omitted the **r**, for example: PNSAS (princess), PATE (pretty), KIING (crying), and FAND (friend).

Lindsey represented some of the vowel phonemes conventionally, for example, /e/ with **a** (e.g., DAGR for danger), /i/ with **e** (e.g., PEEPL for people), and /o/ with **o** (e.g., MODSCLK for motorcycle). To represent /u/, she used a

variety of letters, for example, TUWF (tooth), GWO (grew), and SASN (Susan). Like Janet, Lindsey utilized the letter **a** for many of the lax vowels, as shown in the following examples:

/æ/ MARLED (married), KASILL (castle), BAC (back);

/ɛ/ RAD (red), GACKRS (checkers), FAND (friend);

/ɪ/ KAD (kid), PACKR (picture), SAICK (sick);

/a/ GAT (got), NAT (not), LAN (long);

/ə/ BAT (but), HAME (honey), BATFAIE (butterfly), KAMING (coming).

To represent the various diphthongs, Lindsey used the **i** and **a** for /ay/ (e.g., TIM for time, NIS and NAIS for nice, LAK, LAICK and LIKE for like), **a** and **o** for /au/ (e.g., DAN for down, FAWR for flower, AWT for out, MOTNS for mountains, POD for proud), and **o** or **u** for /Iu/ (e.g., HOWOG for huge, BUTAFL for beautiful). To represent vowels with **r**, Lindsey sometimes omitted the vowel, as the following examples illustrate:

/qr/ PRCEA (park), HRiT (heart), FARN (farm), RAEAT (Army Ant);

/ɔr/ FARDSD, FRAS (forest), ODNE, ORDNAREY (ordinary);

/ɔʀ/ GRLS (girls), PRSM (person), FRASD (first), WOR (were);

/ʒr/ DAGR (danger), FAWR (flower), A NAVR (another), AF DR (after).

Although Lindsey was not able to represent all phonemes in her spelling, by the end of first grade she was able to represent multisyllabic words in a decodable fashion, for example, WTRMLN (watermelon), RELISD (realized), and ORDNAREY (ordinary). Thus, she was well on her way to conventional spelling.

An analysis of phonemic representation shows similarities and differences between the children. These similarities and differences may be summarized as follows:

Consonants:

- . consonant use was more conventional than vowel use;
- . vowels were never used to represent consonant phonemes;
- . of the consonants, the phonemes used most conventionally were /t/, /d/, /g/, /h/, /l/, /r/, /s/, /z/, /j/ and /k/;
- . some phonemes were confused by more than one child: /p/ and /b/, /f/ and /v/, /w/ and /y/, with Janet also confusing /m/ and /n/;
- . to represent /θ/, the children used a variety of letters, such as **f**, **s**, **t**, **h**, and **sh**, but by year's end, the conventional **th** was used by all children;
- . to represent /ð/, the children used a variety of letters, such as **d**, **s**, **v**, and **v**, but by year's end, the conventional **th** was used by all children;
- . the nasal, /ŋ/, was written conventionally by the two "advanced" children (Matthew and Caitlin) at mid-year, by two children (Janet and Lindsey) at year's end, but not by Alan and Brandon;
- . **n** was the most frequent non-conventional representation of /ŋ/;
- . most of the children used **sh** to represent /ʃ/ by year's end, although Caitlin usually used **h** instead;
- . to represent /ç/, some children used **h** (Caitlin) or **sh** (Matthew and

Janet) and Lindsey used **g**, with all children but Lindsey using the conventional **ch** by year's end;

Two consonant clusters with **r**:

- . two consonant clusters with **r** written conventionally by year's end include /kr/, /gr/, and /pr/, and with the exception of Brandon, /br/;
- . /tr/ was written conventionally by two children, but **r**, **dr**, **jr**, and **shr** were also observed to represent /tr/ in four children's writing;
- . /dr/ was written conventionally by four children, but two children used **j** or **jr** instead;
- . three children represented /tr/ with **fr**, and three children wrote only **f**;

Vowels:

- . at the beginning of the year, vowels were often omitted by all six children;
- . consonants were not used to represent vowels, with the exception of **w** as in HWP (hope);
- . for the most part, single vowels were used by the children;
- . the most conventionally written vowels include /e/, /o/, /æ/ and /ʊ/;
- . the most conventional vowel use was observed in Matthew's writing, with seven vowels conventional by February, and two more by year's end; the least conventional use was observed in Janet's writing, and she most frequently used **a** to represent all vowel phonemes;
- . /i/ was written with the usual **e** by all children, but four of the children

occasionally used **y**, or **a** instead;

- . /u/ was written conventionally by Matthew, but Alan and Caitlin used **o**, Brandon used **oo**, and Janet and Lindsey used both **a** and **o**;
- . four of the children used **a** to represent /ɛ/; for most of the year Alan used either **u** or **i**, but **e** by year's end, while Matthew used **e** consistently by January;
- . by March, Matthew and Alan represented /ɪ/ with **i**; the four other children used **a**, and two children occasionally used **e**;
- . /a/ was represented with **o** by all of the children except Lindsey, with **a** also used by four children;
- . /ə/ was the least conventional vowel, with **a** used most frequently by five of the children, while Matthew used **o** or **u**;

#### Diphthongs:

- . /eɪ/ and /oʊ/ were the most conventionally written diphthongs;
- . the most conventional diphthong use was observed in Matthew's writing, although he usually used **yu** to represent /ɪu/; the least conventional use was observed in Janet's writing;
- . /aɪ/ was written with the usual **i** by all children, but four children also used **a**;
- . /aʊ/ was written as **a** or **o** by four of the children, but Alan used **iy** or **iw**, and Matthew used the conventional **ow** or **ou**;
- . /ɔɪ/ was written conventionally by Matthew and Brandon by June, but frequently as **o** by Caitlin, and **o** and/or **a** by Janet;

- . /u/ was observed written as **yu, yo, io, u, o, oo, a**, and **oa**;

#### Vowels with r:

- . the vowel was omitted by all children, especially in an unstressed syllable;
- . by February, Matthew always included the appropriate vowel with **r**, with the exception of **er** to represent /ɜr/ used most frequently;
- . **r** and **ar** were used to represent /ɑr/;
- . **r, o**, and **or** were used to represent /ɔr/ by four children, with Janet and Lindsey using **r** or **ar**;
- . /ɜr/ was usually written conventionally by Matthew, as **r** by four children, as **or** by Alan, as **ar** by Janet, and as **er** or **o** by Brandon;
- . /ɜr/ was written conventionally by Matthew by December, with the other four children using **r**, and by Janet using either **r** or **ar**;

#### Phonemic Segmentation and Representation:

- . All children increased in their ability to represent phonemes;
- . The children identified by the teacher as advanced in development showed the greatest degree of phonemic segmentation and representation in the writing. Matthew was able to represent almost all phonemes in his writing by November, and his writing shows the greatest degree of phonemic segmentation; Caitlin's ability to segment words and represent phonemes in her writing was the next most conventional after Matthew, although by year's end, she still omitted some phonemes, and vowels were less conventional than consonants;

- The other four children were able to segment words and to represent most phonemes in their writing by the end of the second term in first grade;
- Janet's representation of phonemes was less conventional than the other children's, and, as a result, her writing was the most difficult to decode.

### Discussion

As suggested by Piaget (1959), segmentation analysis of the writing in this study shows that the children became aware of sentences before they became aware of words, as they learned to segment their ideas to represent them on the page. At the beginning of the year, the children did not have a conventional concept of what a word is, as defined by spaces on either side (Meltzer & Herse, 1969; Morris & Henderson, 1981), but as the year progressed, this concept became, for the most part, conventional (Mickish, 1974), with words representing concrete ideas represented before abstract ideas (Holden & MacGinitie, 1972; Ferreiro, 1978), although this took longer for some children than others (Clay, 1975).

During the year, the children learned to use a variety of punctuation marks in their writing (Bissex, 1980), including the period to end texts and to end individual sentences (Edelsky, 1983; Cordeiro, 1988). Apostrophe use was overgeneralized to plurals (Cazden, Cordeiro & Giacobbe, 1983). Varying degrees of conventionalization in punctuation were observed (Edelsky, 1983), with individual differences among the children (Milz, 1983). In addition to

conventional punctuation marks, graphic stylistics were observed in all the children's texts (Cook-Gumperz & Gumperz, 1981).

Some of the children wrote entirely in capital letters early in the year, with an increase towards conventional lower case and capitals by the end of the year (Clay, 1975; de Goes & Martlew, 1983; Newman, 1984), but various patterns of non-conventional capital use, for instance, to start specific words, were also observed (Edelsky, 1983), confirming the notion of "invented punctuation" (Cazden, Cordeiro, & Giacobbe, 1985).

The children in this study did indeed, as the literature suggests, seem to "invent" much the same system of spelling (Read, 1975; Chomsky, 1979). Overgeneralizations were observed in all the children's spellings (Zutell, 1978; Forester, 1980). As in other first grade studies, these children were able to represent consonants regularly for the most part (Read, 1975; Giacobbe, 1981, Milz, 1983), with errors occurring mainly with consonant clusters, digraphs and variant spellings (Cramer, 1976b) and omission of preconsonantal nasals (Read, 1975; Beers & Henderson, 1977, Ehri, 1985). They rarely spelled vowels with consonants, and to begin with they usually used a single vowel (Read, 1975). High frequency words were the earliest to become conventionalized (Beers, 1980; Beers, Beers, & Grant, 1977; Milz, 1983). Changes occurred in the spelling of individual words (Milz, 1983), with similarities and differences occurring among the individual children (Gundlach et al., 1985).

The growth in the children's writing, however, was not a route march to conventionalization, for as the children began to express more complex ideas in

writing, their texts increased in both length and complexity. Thus there were more opportunities for the children to take risks in their writing and thus make “mistakes”. It should be noted that for these young writers, a supportive classroom environment was provided, freeing the children to express their ideas without fear of making mistakes in such conventions as punctuation and spelling, while providing daily modelling of writing to demonstrate the conventions of writing in a meaningful context.

### Summary of Results

This chapter has detailed the development of orthography, specifically punctuation (including segmentation, punctuation marks, and capitalization) and spelling. In this study:

Punctuation (research question 6a):

1. Nine word segmentation and three sentence segmentation categories were identified, as follows:  
  
Word segmentation - not all words represented, no spaces between words, segmentation with hyphens, non-conventional spacing (random chunks, semantic chunks, syllabic chunks), conventional word boundaries, and hyphenation between lines (conventional and non-conventional);  
  
Sentence segmentation - no segmentation, non-conventional segmentation, and conventional segmentation.
2. Four of the nine word segmentation types and two of the three

sentence segmentation types were found in the writing of all six children.

3. Children produced both semantic and syllabic chunks in addition to conventional word boundaries, and sentence segmentation became conventional more quickly than word segmentation. Changes occurred in segmentation throughout the school year towards conventional forms.
4. Nine punctuation marks were observed in the children's writing: period, apostrophe, comma, hyphen, question mark, exclamation mark, quotation marks, colon, and caret. The period was the only mark observed in all the children's writing, while five children used the apostrophe. Children rated by the teacher as "advanced" in development at the beginning of first grade used more punctuation marks than the children the teacher considered "average" or "delayed" in development (research question 7).
5. Graphic stylistics were also observed in the writing: arrow, "speech balloon", capitalization for effect, enlarged lettering, and stylized letters.
6. Period and apostrophe usage was classified, with end-text and end-sentence use of periods observed in all children's writing, and possessive use of apostrophe observed in five children's writing, with overgeneralization to plurals.
7. Six categories of capitalization were observed: all capitals, capitals with occasional lower case, mixed capitals, and lower

case, lower case with occasional capitals (non-conventional), all lower case, and lower case with conventional capitals. There was a trend away from capital letters to lower case during the year, with a movement towards conventional capitals.

8. Both similarities and differences were noted as the children learned to punctuate. Segmentation and punctuation in the writing of children identified by the teacher as “advanced” in development was more conventional than those children identified as “average” or “delayed” in development (research question 7).

Spelling (research question 6b):

9. There was an increase in decodability in the children’s texts from beginning to end of year.
10. From the beginning to the end of the year, the instance of non-identifiable words decreased, and both non-conventional decodable spellings and conventional spellings increased, as did the number of different words written. Individual differences were noted in the degree of conventionalization in spelling at years end, from 17% to 52%. At year’s end, the “advanced” children produced more completely decodable texts than the other children and the greatest amount of conventional spellings (research question 7).
11. Analysis of twelve words found in all the children’s writing showed increasing approximations to conventional form, with one student writing all twelve common words conventionally by year’s end.

12. Consonant use was more conventional than vowel use.
13. The consonants causing most difficulty were /θ/, /ð/, /ɪ/, /ʃ/ and /ç/.
14. Many two consonant clusters with r were written conventionally.
15. At the beginning of the year, vowels were often omitted by all six children.
16. Vowels were not used to represent consonants and consonants were not used to represent vowels, with the exception of w as in HWP (hope).
17. For the most part, single vowels were used by the children.
18. Vowels and diphthongs were less conventional than consonants.
19. When followed by r, the vowel was often omitted by the children, especially in an unstressed syllable.
20. All children increased in their ability to segment words and represent phonemes. Individual differences were noted in the degree of conventionality, with the "advanced" children able to segment words and represent phonemes more conventionally than the other children (research question 7).
21. No gender differences were found in orthography or orthographic development (research question 7).

In this chapter, the results of the following analyses of function-form interrelationships will be presented and discussed:

- function and discourse-level form
  - function and genre,
  - function and text structure;
- function and sentence-level form
  - function and syntax,
  - function and sentence patterns; and
- function and orthography
  - function and punctuation,
  - function and spelling.

Interrelationships between function and discourse-level form will be presented first, followed by function and sentence-level form, and finally, function and orthography.

### Function and Discourse-level Form

Analyses were conducted to determine interrelationships between function and discourse-level form. Based on the notion that “form follows function” (Halliday, 1973), analyses examined which genres and text structures were associated with the various functions identified in this study. If form does follow function, then one would anticipate that different genres (or at least, different categories of genres) and different text structures would be associated with different functions. Indeed, this was found to be so in this study.

### Function and Genre

Analysis indicates that specific genres were associated with the various functions. Table 38 summarizes the function-genre interrelationships identified in this study. The major functions were associated mainly with the clusters of genres (listed from most frequent to less frequent) shown as follows:

|                         |                                                          |
|-------------------------|----------------------------------------------------------|
| Identifying             | - Label, Attribute Series;                               |
| Expressing              | - Expanded Record, Attribute Series;                     |
| Interacting             | - Note/Letter, (Attribute Series - one subject);         |
| Informing               | - Expanded Record, Label, Basic Record;                  |
| Referring to Experience | - Expanded Record, Basic Record, Expanded Record Series; |
| Anticipating/Predicting | - Basic Record, Expanded Record, Expanded Record Series; |
| Imagining               | - Attribute Series, Label, Couplet;                      |
| Representing            | - Attribute Series, Label, Recount, Word Play.           |

As Table 38 indicates, less frequently occurring functions were also associated with various genres. However, because low incidence may distort the results, strong conclusions cannot be drawn regarding which genres were more frequently associated with the less frequently observed functions.

When examined from the point of view of genre categories, Referring to Experience and Anticipating/Predicting were found to be associated primarily with chronological genres; Identifying, Interacting, Imagining and Practicing were associated primarily with non-chronological genres. Four functions usually found in secondary roles - Self-aggrandizement, Expressing, Informing,

Table 38  
Function-Genre Interrelationships

| Genre                             |                         | Basic Record | Exp. Record                 | Bas. Rec. Series | Exp. Rec. Series | Recount | Narrative | Label                            | List | Attribute Series | Couplet | Hier. Att. Series | Word Play | Note/Letter | Written Dialogue | Picture Dialogue |
|-----------------------------------|-------------------------|--------------|-----------------------------|------------------|------------------|---------|-----------|----------------------------------|------|------------------|---------|-------------------|-----------|-------------|------------------|------------------|
| Function                          |                         |              |                             |                  |                  |         |           |                                  |      |                  |         |                   |           |             |                  |                  |
| 1.                                | Self-Aggrandizement     | *            | *                           | 0                | *                | *       | 0         | *                                | *    | *                | 0       | 0                 | 0         | 0           | 0                | 0                |
| 2.                                | Identifying             | 0            | -                           | 0                | -                | -       | -         | X                                | 0    | x                | -       | -                 | -         | -           | 0                | 0                |
| 3.                                | Expressing              | -            | x                           | -                | -                | -       | 0         | -                                | 0    | x                | -       | 0                 | 0         | -           | 0                | 0                |
| 4.                                | Interacting             | 0            | -                           | 0                | 0                | -       | 0         | 0                                | 0    | +                | 0       | -                 | -         | x           | -                | 0                |
| 5.                                | Informing               | +            | x                           | 0                | -                | 0       | 0         | +                                | 0    | -                | -       | 0                 | 0         | 0           | 0                | 0                |
| 6.                                | Referring to Experience | +            | x                           | -                | +                | -       | 0         | 0                                | 0    | -                | 0       | -                 | 0         | 0           | 0                | 0                |
| 7.                                | Anticipating/Predicting | x            | x                           | -                | +                | -       | 0         | 0                                | 0    | -                | 0       | -                 | 0         | 0           | 0                | 0                |
| 8.                                | Imagining               | 0            | -                           | 0                | 0                | -       | -         | +                                | 0    | x                | +       | 0                 | -         | 0           | 0                | -                |
| 9.                                | Practicing              | 0            | 0                           | 0                | 0                | 0       | 0         | *                                | *    | 0                | 0       | 0                 | 0         | 0           | 0                | 0                |
| 10.                               | Reasoning               | 0            | *                           | 0                | *                | *       | 0         | 0                                | 0    | *                | 0       | 0                 | 0         | 0           | 0                | 0                |
| 11.                               | Representing            | -            | 0                           | -                | 0                | +       | -         | +                                | 0    | x                | -       | 0                 | +         | -           | -                | -                |
| 0 Did not occur                   |                         | -            | Occurrence <10% of function |                  |                  |         | +         | Occurrence 10 - 25% of function  |      |                  |         |                   |           |             |                  |                  |
| x Occurrence 25 - 50% of function |                         | X            | Occurrence >50% of function |                  |                  |         | *         | Distortion because function rare |      |                  |         |                   |           |             |                  |                  |

and Representing - were associated both with chronological and non-chronological genres, while the remaining function operating mainly in a secondary role, Reasoning, was associated with chronological genres.

### Function and Text Structure

As in the analysis of function-genre interrelationships, analysis of the data in this study for function-text structure interrelationships revealed associations between various text structures and the different functions. Table 39 summarizes the results of this analysis. When one considers text structures that occurred within a function at a frequency of more than 25%, function-text structure interrelationships (listed from most frequent to less frequent text structure) observed in this study include:

|                         |                                   |
|-------------------------|-----------------------------------|
| Self-aggrandizement     | - coupled;                        |
| Identifying             | - single clause, centered;        |
| Expressing              | - centered, chained;              |
| Interacting             | - less than one clause, centered; |
| Informing               | - single clause, coupled;         |
| Referring to Experience | - single clause, chained;         |
| Anticipating/Predicting | - single clause, chained;         |
| Imagining               | - centered, single clause;        |
| Practicing              | - less than one clause;           |
| Reasoning               | - chained;                        |
| Representing            | - less than one clause.           |

Thus, text structures of less than one clause were associated with Interacting,

Table 39  
Function and Text Structure Interrelationships

| Text Structure                                                 |                         | < 1 Clause | Single Clause | Coupled | Centered | Chained | Centered + Chained |
|----------------------------------------------------------------|-------------------------|------------|---------------|---------|----------|---------|--------------------|
| Function                                                       |                         |            |               |         |          |         |                    |
| 1.                                                             | Self-Aggrandizement     | 21         | 21            | 33      | 13       | 13      | 0                  |
| 2.                                                             | Identifying             | 4          | 50            | 11      | 31       | 2       | 2                  |
| 3.                                                             | Expressing              | 0          | 5             | 13      | 44       | 33      | 5                  |
| 4.                                                             | Interacting             | 32         | 13            | 0       | 26       | 16      | 13                 |
| 5.                                                             | Informing               | 5          | 42            | 26      | 11       | 16      | 0                  |
| 6.                                                             | Referring to Experience | 2          | 35            | 22      | 10       | 29      | 3                  |
| 7.                                                             | Anticipating/Predicting | 1          | 38            | 18      | 16       | 23      | 3                  |
| 8.                                                             | Imagining               | 2          | 27            | 16      | 44       | 7       | 5                  |
| 9.                                                             | Practicing              | 86         | 7             | 0       | 0        | 7       | 0                  |
| 10.                                                            | Reasoning               | 0          | 0             | 8       | 16       | 62      | 16                 |
| 11.                                                            | Representing            | 63         | 17            | 0       | 4        | 13      | 2                  |
| Expressed as percentages of texts identified for each function |                         |            |               |         |          |         |                    |

Practicing, and Representing. Coupled text structure was associated with Self-aggrandizement and Informing (both usually secondary functions); centered text structure was associated with Identifying and Imagining (and in Caitlin's writing, also with Interacting); chained text structure was associated with Referring to Experience and Anticipating/ Predicting, and also with Reasoning (which was usually reflection on personal experiences). Single clause text structure was found to be associated with five functions - Identifying, Informing, Referring to Experience, Anticipating/Predicting and Imagining. These five functions, however, were also found to be associated with other more complex text structures mentioned previously. Expressing (which was usually a secondary function) was the only function associated with both centered and chained text structure. Sometimes the children expressed feelings/opinions about their experiences (written in chained texts, e.g., Expanded Record) and sometimes they expressed feelings/opinions about elements of their pictures (written in centered texts, e.g., Attribute Series).

#### Function and Sentence-Level Form

Analyses were conducted to determine interrelationships between function and sentence-level form. If form follows function, then one would anticipate that different types of syntactic structures and sentence patterns would be associated with different functions. This was found to be the case in this study.

#### Function and Syntax

Function-syntax interrelationships were examined by analyzing, within

each function, the following:

1. verbs - types (e.g., action verbs, verbs of attribution, and so on),  
- tense (e.g., past tense, generalized present tense);
2. pronouns (especially personal pronouns);
3. adjectives (especially those that describe feelings or opinions);
4. adverbs (specifically, temporal adverbials);
5. exophoric references (to pictures or elements of pictures).

Table 40 summarizes frequent syntactic elements identified for each function.

### Function and Sentence Patterns

Sentence patterns were identified that were strongly associated with the different functions. This section will present the most frequent sentence patterns for each function.

Self-aggrandizement, a function identified in only 3.4% of the texts in this study, in 93% of identified instances was found to occur in the sentence pattern, "I + verb + past/present tense....".

Examples: I brought a book that I wrote with my Daddy's help.

I can read "Ten Apples Up on Top".

Analysis of sentence patterns within the Identifying function revealed that 81% of the sentences began with "This is....", for example, "This is King Kong." This sentence pattern was noted particularly in the initial sentence of Identifying texts. Sentence beginnings such as "Once upon a time" or "Long, long ago" occurred in only 6% of the texts coded as Identifying. Analysis of second and subsequent sentences coded as Identifying reveals only 10% of the sentences

Table 40

Syntactic Elements of Writing Functions

| Function                   | Syntactic Elements                                                                                                                                                                                                                               |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Self-aggrandizement     | Verbs - denoting achievement, e.g., made, wrote, won, can (usually past tense), or denoting possession, e.g., have (usually generalized present tense, occasionally future tense);<br>Pronoun - I;                                               |
| 2. Identifying             | Verb - "to be", generalized present tense,<br>Exophoric pronouns, especially <b>this</b> ;                                                                                                                                                       |
| 3. Expressing              | Verbs denoting attitude or emotion, e.g., like, love, miss, can't wait, hope, wish, or the verb "to be", usually present tense,<br>Pronouns - I, we,<br>Adjectives - of emotion, e.g., sad, happy, nervous, or attitude, e.g., cool, neat, best; |
| 4. Interacting             | Verbs - usually active verbs (present tense),<br>Pronouns - you, your,<br>Prepositions - to, from;                                                                                                                                               |
| 5. Informing               | Verbs - generalized present tense, often the verb "to be",<br>Pronouns - I, he, she, it, we, they;                                                                                                                                               |
| 6. Referring to Experience | Verbs - action verbs, usually past tense,<br>Pronouns - I, we,<br>Adverbs - often temporal adverbials, especially yesterday, today;                                                                                                              |

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| Function                   | Syntactic Elements                                                                                                                                                                                                                                                                                         |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <hr/>                      |                                                                                                                                                                                                                                                                                                            |
| 7. Anticipating/Predicting | Verbs - future tense, especially going + infinitive (e.g., going to be),<br>Pronouns - I, we,<br>Adverbs - often temporal adverbials referring to the future, e.g., tomorrow, in five days,                                                                                                                |
| 8. Imagining               | Verbs - past tense in chronological form, generalized present tense in non-chronological forms,<br>Pronouns - he, she, it, they,<br>Adverbs - temporal adverbials such as "long, long ago", "once upon a time",<br>Exophoric reference when associated with Identifying of picture or elements of picture; |
| 9. Practicing              | Lists of letters or words,<br>A variety of syntactic elements when copied;                                                                                                                                                                                                                                 |
| 10. Reasoning              | Verbs of action, usually past or future tense;                                                                                                                                                                                                                                                             |
| 11. Representing           | Verbs - action verbs, occasionally imperatives,<br>Pronouns - you, when associated with Interacting,<br>Onomatopoeia, e.g., Bang, Bow wow.                                                                                                                                                                 |

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in the form “This is....”. A more common sentence pattern in non-initial positions (59% of instances) was the pattern “[A/The + noun] or [pronoun] + is + [action verb] or [adjective] or [adverb] or [noun phrase]”, for example:

The dragon is winning.

It is HUGE!

The green things are Martians.

The red stuff is lava.

Like Self-aggrandizement, most of the Expressing sentences began with the pronoun I. The most frequent sentence pattern was “I like(d)....” (38%), for example, “I like the princess.” Another 15% of the sentences began with “I + verb of emotion (other than like)”, such as:

I love my Mom.

I can’t wait.

I hope I will be the princess.

And 15% of the sentences were of the pattern “It is/was + adjective.”, for example:

It is neat.

It was funny.

The children also wrote sentences to express emotion in the pattern “I am + emotion”, for example:

I am nervous.

I am sad.

I am excited.

Interactive texts had quite distinct syntactic patterns. Most texts were written as phrase units, for example “to Mom, from Lindsey” or “to Mom, love Lindsey” (34%), or as questions (42%), for example:

Where is he?

Do you know a cat?

Can you get out of the maze?

Sentence patterns within the Informing function began either with a personal pronoun (most frequently the pronoun I - 18% of informative texts) or with a name, as in the following examples:

I already had three sets of tubes.

Everyone in my family has a ukelele except my Mom.

My Dad almost got in a war when he was nineteen.

Emily is a friend of my Mom and Dad.

Many of the sentences coded as Referring to Experience contained temporal adverbials (44%), most frequently in the initial position (35% of all Referring to Experience sentences). Most of the remaining sentences without temporal adverbials (56%), began with either “I + verb of action” (26% of Identifying sentences) or another personal pronoun followed by a verb of action (27%). Almost all of these common Identifying sentence patterns contained past tense verbs, for example:

Yesterday I had a friend over.

I got my ears pierced on Saturday.

I saw a dead mouse.

My Dad got a new bike.

Similarly, Anticipating/Predicting sentences often contained temporal adverbials (42%), especially in the initial position (36% of all Anticipating/Predicting sentences). The main difference between Referring to Experience and Anticipating/Predicting was verb tense, with the latter utilizing future tense, for example:

In a few days I am going to get my tubes put in again.

My Dad is coming back tonight.

I am going to have three grownup teeth.

It might be a treasure box.

Imaginative stories written for children often begin with phrases such "Once upon a time...." or "Long, long ago....". In this study, however, such phrases began only 9% of the texts coded as Imagining. A more common sentence pattern used by these children was "This is...." (33% of all Imagining sentences), especially in the opening sentence of a text. Second and subsequent sentences most frequently began with "The + noun" or a personal pronoun, for example:

This is Wolfman. He destroys anybody who comes near him.

Reasoning, a function observed rarely in this study, did not appear in any one form, but the subordinating conjunctions "because", "so", "but", and "if" were observed in many of the Reasoning sentences, for example:

He got a bigger ball because he uses it as a basket ball.

It didn't fit so we have to take it back.

My Mom thought that Tramp fell in the water but I did.

If the plane is late I will have to go to ( ).

But if it's not late I have to go to my Dad's.

Representing oral and written language was found in several forms.

Embedded in a text, it was found within quotations marks in 13% of identified instances, and was usually in sentence form. Within a text, Representing was also observed as a question, an answer, or a verse. Embedded in a picture, Representing took a variety of forms, most of which were not sentences, such as animal or creature sounds ("roar"), counting, cheers ("Yahoo!"), names (i.e., calling a name), sound effects ("Pow!"), imperatives ("Help!"), and other single words or phrases. Pictures also sometimes contained the same representation of oral language in the text and in the picture.

#### Function and Orthography

Analysis was undertaken to determine whether there was an association between function and orthographic form, namely, punctuation and spelling. However, in this study, as expected, no such associations were noted. Rather, orthography seemed to be influenced more by the children's developmental level and experience with writing. Thus, orthographic form did not appear to "follow" function.

#### Individual Differences in Function Form Interrelationships

Similarities and differences were found between subjects in function-form interrelationships. This section will present between-subject findings in function and discourse-level form, and function and sentence-level form.

### Individual Differences in Function and Discourse-level Form Interrelationships

When examined at the discourse level, individual differences in form were found within each function. This section presents the results of analyses investigating differences between the children in discourse-level form for each writing function. Since genres and text structure are interrelated, differences in genre also imply differences in text structure.

Self-aggrandizement, one of the infrequently observed functions in this study, was observed in several genres, the most common of which were the Expanded Record and the List. No one genre was identified in more than three children's writing within this function.

Within the Identifying function, the Label and the Couplet were produced by all six children. The second most frequent genre within the Identifying function, the Attribute Series, however, was produced by only four of the children, Brandon, Caitlin, Janet, and Lindsey. These four children also wrote to identify in Recount form.

Few differences were found within the Expressing function, with all children writing to express emotions or attitudes in Attribute Series form, for example:

This is Love Land. Everyone is in love. It is neat.

Five of the six children (all except Brandon) also wrote expressively in Expanded Record form, for example

Yesterday we went to visit college. All of us like visiting college. I also like visiting college.

Within the Interacting function, most of the texts (67%) were produced by Caitlin. Six genres were identified in her interactive writing, the most frequent being the Attribute Series, for example:

This is a birthday party. It is fun. Where are you?

Yet only one other text in this genre (written by Lindsey) was produced by the other children within this function. The most frequent interactive form used by all three girls was the Note/Letter.

Within the Informing function, almost half of the texts were produced by Matthew. The most frequent genre within this function written by Matthew was the Expanded Record, for example:

Last night I made a paper mache bowl. It is not dry yet.

None of the other children produced informative writing in this form. Only a few informative texts were produced by the other children. The Label was the most common genre within this function produced by all six children.

Referring to Experience, one of the most frequently observed functions, took several forms. The most frequent genre, the Expanded Record, and the second most frequent genre, the Basic Record, were produced by all six children. Within this function the Recount was observed in Matthew's, Caitlin's, and Janet's writing. Narratives were not found in any of the children's writing that referred to their experiences.

Basic Records and Expanded Records were also observed within the Anticipating/Predicting function in all of the children's writing. Similarly, the same three children, Matthew, Caitlin, and Janet produced Recounts within the Anticipating/Predicting function.

Labels and Attribute Series, the most common genres within the Imagining function, were produced by all children. Five of the six children (all but Matthew) also wrote imaginative Couplets, and four of the children (all but Matthew and Alan) also wrote imaginative Recounts. Yet these two boys each wrote an imaginative Narrative, as did Caitlin and Janet.

Practicing, a rarely identified function, was observed primarily as Lists, and was found in the writing of four children, the three boys and one girl (Caitlin). Other texts identified as Practicing were not sufficiently decodable to classify by genre.

Reasoning, the least frequently observed genre in this study, was observed in the writing of the two "advanced" children in Recount form. It was also observed in Expanded Record form in Caitlin and Janet's writing, and in Attribute Series form in Brandon's writing.

Representing Oral or Written Language took a variety of forms, depending upon whether the representation was found within a text or embedded in a picture. Four of the children used writing for this purpose both within text and picture, while Matthew used writing for representing speech only within a text, and Alan used writing for representing speech only within a picture. No one genre was identified within this function category for all children. The most common genre within this function overall, the Attribute Series, was identified in the writing of five of the children (all but Alan). Of the boys, Brandon used writing to represent speech in five different genres, while each of the girls produced such writing in six different genres.

When one examines genres within each function, developmental level

differences were noted for five functions - Expressing, Referring to Experience, Anticipating/ Predicting, Imagining, and Reasoning. No developmental level differences were discerned within the remaining functions. Children rated by the teacher as "advanced" in development wrote in more complex genres within each of the five functions than the other the children, or children rated as "advanced" and "average" produced more complex forms than "delayed" children. The following provides a summary of developmental level differences observed in function-genre interrelationships:

- |                         |                                                                                                                        |
|-------------------------|------------------------------------------------------------------------------------------------------------------------|
| Expressing              | - Recounts produced only by "advanced" children, Matthew and Caitlin, and by the "average" girl, Janet;                |
| Referring to Experience | - Recounts produced only by "advanced" children, Matthew and Caitlin, and by the "average" girl, Janet;                |
| Anticipating/Predicting | - Recounts produced only by "advanced" children, Matthew and Caitlin, and by the "average" girl, Janet;                |
| Imagining               | - Narratives produced only by "advanced" children, Matthew and Caitlin, and by the "average" children, Alan and Janet; |
| Reasoning               | - Recounts only produced by "advanced" children, Matthew and Caitlin.                                                  |

### Individual Differences in Function and Sentence-Level Form Interrelationships

Sentence-level analysis of individual differences within each function found few syntactic differences, but some sentence pattern differences. This section will present the results of the investigation of differences between subjects in function-sentence structure interrelationships.

Within the function, Self-aggrandizement, 93% of sentences were of the pattern, "I + verb of action or possession....". The only exceptions to this pattern were two sentences written by Matthew:

My Dad taught me a few chords.

The other kids at the tournament were a year older than me.

Within the Identifying function, few differences were found in sentence-level form. All of the children produced mainly "This is...." sentences. Most of the sentences beginning "Once upon a time" were written by Janet and Lindsey. Second and subsequent sentences were most frequently of the pattern [pronoun] + [is] + [action verb/adjective/adverb/noun phrase] or [a/the + noun] + [is] + [action verb/adjective/adverb/noun phrase]. Some of the most complex (and interesting) sentences were written by Brandon, for example:

The thing with lines on him is the mummy.

The little thing on the space ship is a little man..

Sentences within the Expressing function were similar in pattern. All children wrote "I like(d)..." sentences. With the exception of Caitlin's writing, this was the most frequent expressive sentence pattern written. Caitlin had the most variety in sentences within this function, primarily because she had the largest

vocabulary of expressive words in her writing, such as “nervous”, “scared”, “excited”, and “exciting”. Caitlin also had the greatest number of interactive sentences and widest variety in sentence patterns within the Interacting function. While Lindsey’s interactive texts were for the most part in the form “to ..., love, Lindsey”, Caitlin wrote a variety of sentences (including questions), such as:

I wonder who's going to win?

What is going to happen to her?

I'm sorry to say, but I have to go.

Within the Informing function, there was similarity in sentence patterns, with the greatest variety of sentences in Matthew’s writing. This may, in part, be due to the fact that Matthew wrote more than twice as many informative sentences as any other child in this study.

Of the sentences coded as Referring to Experience, individual differences were noted in the use of temporal adverbials. Matthew wrote many more sentences to refer to experience than the other children. Most of Matthew’s sentences within this function contained temporal adverbials, while the other children wrote more sentences without them. In all but two cases, the temporal adverbial was in the initial position in Matthew’s sentences. When writing sentences with temporal adverbials, Alan also wrote a higher proportion of temporal adverbials in the initial position, but Caitlin and Lindsey used temporal adverbials in the initial and ending positions of sentences with equal frequency. Analysis of sentence patterns within the Anticipating/ Predicting function showed results almost identical to the Referring to Experience function.

Because most of the writing coded as Imagining was also coded as Identifying in this study, in most cases, results of sentence analysis within the Imagining function was virtually identical to Identifying function results. Thus, most of the initial sentences were of the “This is....” pattern. Second and subsequent imaginative sentences were often as described under Identifying (i.e., [pronoun] + [is] + [action verb/adjective/adverb/noun phrase], or [a/the + noun] + [is] + [action verb/adjective/adverb/noun phrase]), but in chronological genres, imaginative sentences usually contained past tense verbs rather than present tense verbs.

Practicing and Reasoning, both infrequent functions, did not contain enough text to analyze for individual differences. Within the Representing function, Janet produced the largest number and greatest variety of within-text representations of speech, while Caitlin produced the largest number and greatest variety of representations of speech/sound effects within pictures. Of the three boys, Brandon produced the greatest variety of representations of speech/sound effects (with one exception, embedded in pictures) and the only representation of written language (signs). His writing contains the second most frequent instances of Representing oral and written language overall.

When one examines developmental level differences in sentence patterns within each function, five of the eleven functions indicate no developmental level differences in sentence structure. However, within six functions one of the children rated as “advanced” by the teacher had the greatest variety in sentence types, specifically:

Self-aggrandizement - Matthew,

|                         |            |
|-------------------------|------------|
| Expressing              | - Caitlin, |
| Interacting             | - Caitlin, |
| Informing               | - Matthew, |
| Referring to Experience | - Matthew, |
| Anticipating/Predicting | - Matthew. |

Thus, in this study, developmental level differences are evident in function/sentence-level form interrelationships.

### Discussion

As suggested by Halliday (1973) and others (Shuy, 1981a; Jaggar, 1985; Klein, 1985; Pinnell, 1985; Bernhardt, 1986), analyses of the children's writing in this study shows that form does, indeed, follow function. The analyses conducted in this investigation indicate that first grade writers shape both discourse-level form (i.e., form of discourse, or genre and structure of text) and sentence-level form (i.e., syntax and sentence patterns) according to the purposes for which they are writing. Orthography, on the other hand (specifically, punctuation and spelling), is influenced by the child's development and experience with writing rather than by function.

As with other studies of function and genre, one must acknowledge a possible measurement effect. Because classifications of function and genre appear to be somewhat related, it is expected that analyses from functional and genre perspectives may have some similarities.

In this study, the writing which was used to refer to past experiences or to anticipate or predict future experiences tended to take shape as chronological or narrative forms of discourse or genres. These texts had a logical or

chronologically sequenced structure formed by a chaining process (Applebee, 1978; Monaghan-Nourot, et al., 1988). Writing which referred to a child's experiences usually contained action verbs in the past tense, while that which anticipated experiences contained future tense action verbs (Moffett & Wagner, 1983; Perera, 1984; Martin, 1985). First person pronouns and names of people were prevalent (Moffett & Wagner, 1983; Perera, 1984). All of the children used temporal adverbials in this type of writing. Reasoning, a rarely identified function in this study, was usually embedded in texts that referred to or anticipated experience. Thus, it occurred in chronological genres with action verbs. Certain subordinate conjunctions, particularly "but", "because", and "if" were observed in writing for the purpose of Reasoning.

As in Dyson's studies (1986a, 1986b, 1989) the first grade writers in this study used both drawing and writing to create and express imaginative ideas. The children's imaginative texts usually accompanied the pictures they created to represent imaginative situations. Early in the school year most of the children's imaginative writing also performed an identification function. Such texts contained exophoric references to pictures (Bernhardt, 1986), usually "this". Thus, it is likely that the picture served an imaginative function, with the writing sometimes as addition or afterthought to the picture (Dyson, 1989). The earliest texts serving a dual imagining/identifying function (and those serving the identifying function alone) were usually single clause structures containing the generalized present tense of the verb, "to be", in the sentence pattern, "This is ....", while later texts were multi-clause, non-chronological texts formed by a centering process. These later texts often contained a high proportion of

third person pronouns and names of imaginative characters or creatures. As the year progressed, the “advanced” and “average” children wrote imaginative texts that could convey meaning without an accompanying picture, and exophoric references diminished. As well, the children began to use past tense action verbs in their imaginative writing and produced chronological genres, such as Recounts and Narratives, with a chained structure. Representing oral or written language was usually embedded in imaginative texts or pictures. It took a variety of shapes such as questions, answers, verses, imperatives, animal or creature sounds, cheers and sound effects.

Writing used for self aggrandizement, to provide information, or to express ideas or opinions (mainly secondary functions) was usually embedded in texts which performed other functions. The text structures of such writing performing these secondary functions were shaped according to the primary function. Thus, Self-aggrandizement, Informing, and Expressing occurred in both chronological and non-chronological genres, with a variety of text structures. These functions were, however, associated with certain verb types and tense and by personal pronouns. All of the children used adjectives in their expressive writing. Thus, when the children’s writing performed one of these secondary functions, sentence level structure was shaped by that function.

In this study, only the three girls used writing for an interpersonal or interactive purpose. This writing, often in the form of notes or letters, contained a high proportion of second person pronouns (Moffett & Wagner, 1983; Perera, 1984) and present tense action verbs. All three girls wrote a written conversation comprised of questions and answers. Two of the girls recorded in

writing verses or songs that they knew (Caitlin and Janet), and one girl (Caitlin) embedded audience-directed questions in some of her texts.

Practicing, the function most difficult to infer from the children's written products, was found usually in list form or repeated words. When produced by copying what the teacher had written on the chalkboard as "Morning News", it took a chronological, sequenced form with past or future tense action verbs.

From the beginning of the first grade, the young writers in this study orchestrated several aspects of written language as they learned to write (Harste, Woodward, & Burke, 1984; Newman, 1984). In their classroom they experienced written language for a variety of functions and in a variety of forms. They watched the teacher modelling writing to refer to experience as she recorded the "Morning News" on the chalkboard each day. Sometimes this writing functioned to anticipate future events. As well, when the teacher read stories to the children or when the teacher and children read "big books" together, the teacher encouraged the children to predict what might happen next in the story. The children used speaking and writing to tell about their pictures (Identifying), to celebrate successes (Self-aggrandizement), to express attitudes and opinions (Expressing), to provide information (Informing), and to reflect on experience (Reasoning). They used their imaginations when they listened to stories read by the teacher, when they drew pictures, and when they wrote. Sometimes, as well as creating imaginative situations and events, they created written representations of speech, sound effects, or signs.

All of the children in this grade one class experienced the interactive

function of written language when they received notes and letters. Yet only the girls produced interactive writing themselves during "Writing Workshop" time. Because only the writing produced during "Writing Workshop" was used in this study, it is not possible to determine whether the boys produced interactive writing at other times or whether they did not write to interact. In Milz's study of first grade writing (1983), the girls produced more interpersonal writing (Halliday, 1973), thus it is possible that in our culture girls are socialized to use writing to interact with others more than boys are.

Modelling provides one explanation for how children acquire functions and forms of writing. In the context of this study, the daily modelling of the "Morning News" provided a powerful model for all of the children, resulting in the function Referring to Experience and the Record genres. If quantity of function and genre use is an indicator of the strength of a particular model, then reading stories to children seemed, in this study at least, to be a less powerful model than watching the teacher write. But if, indeed, modelling does have an effect, then what explanation is possible for the differing effects on gender? Are girls socialized in this culture to use language in general for interactive purposes more than boys? Or is the explanation one of "nature" rather than "nurture"?

In this study, individual differences in function-form interrelationships are evident. Some of these differences appear to be due to individual preferences or style. Other differences appear to be due to developmental level. Within the functions identified in this study, the "advanced" children produced more complex genres in the last term than "average" or "delayed" children. The

analysis of discourse-level structures within each function show developmental level differences at year's end, with "delayed" children producing more centered texts and "advanced" and "average" children producing more chained texts. In addition, "advanced" children's writing contained fewer exophoric references during the last term in comparison with the other children's writing. "Advanced" children's writing also showed a greater variety of sentence patterns within each function.

Within each function, developmental level differences were also noted in orthography at year's end. In comparison to the writing produced by the "average" and "delayed" children, the "advanced" children produced writing with more conventional segmentation between words and sentences, more conventional capitalization and punctuation, and a greater variety of punctuation marks. During the last term, in comparison to the other children's writing, the "advanced" children's writing reveals a greater degree of phonemic segmentation and representation, and conventional spelling. Thus, this study indicates that while function is not developmental, form is.

Clearly, some of the changes that occur in children's written products as they learn to write appear to be a result of individual differences, while others appear to be a result of development. Are individuality and development equally weighted? Findings from the present study suggest that in first grade, that when one examines function, individuality appears to be more significant than development. On the other hand, development appears to have a stronger effect than individuality on orthography, while discourse- and sentence-level forms appear to be affected similarly by development and individuality.

### Summary of Results

This chapter has detailed the relationships between function and form, specifically, function and discourse-level form (genre and text structure), function and sentence-level form (syntax and sentence patterns), and function and orthography (punctuation and spelling). In this study:

1. Genres were associated with the different functions (research question 8), as follows:

Identifying - Label, Attribute Series;

Expressing - Expanded Record, Attribute Series;

Interacting - Note/Letter, (Attribute Series - one subject);

Informing - Expanded Record, Label, Basic Record;

Referring to Experience - Expanded Record, Basic Record,  
Expanded Record Series;

Anticipating/Predicting - Basic Record, Expanded Record,  
Expanded Record Series;

Imagining - Attribute Series, Label, Couplet;

Representing - Attribute Series, Label, Recount, Word Play.

2. Referring to Experience and Anticipating/Predicting were associated primarily with chronological genres; Identifying, Interacting, Imagining and Practicing were associated primarily with non-chronological genres. Four functions usually found in secondary roles, Self-aggrandizement, Expressing, Informing, and Representing, were associated both with chronological and non-chronological genres, while the remaining function operating

mainly in a secondary role, Reasoning, was associated with chronological genres.

3. Text structures were associated with the different functions, (research question 8) as follows:
  - texts less than one clause - Interacting, Practicing, and Representing;
  - coupled text structure - Self-aggrandizement and Informing (both usually secondary functions);
  - centered text structure - Identifying, Imagining, Expressing;
  - chained text structure - Referring to Experience, Anticipating /Predicting, Reasoning, and Expressing.
4. Functions were characterized by syntactic elements, specifically, verb types and tense, personal pronouns, adjectives, adverbs and exophoric references (research question 8).
5. Specific sentence patterns were associated with the different functions (research question 8).
6. No interrelationships were noted between function and orthography (research question 8).
7. Individual differences in discourse-level form were found within each function. Developmental level differences were noted, with "advanced" children writing in more complex genres than the other children within five of the eleven functions (research question 9).
8. Individual differences in sentence-level form were found within

each function. Developmental differences were noted, with one of the “advanced” children (either Matthew or Caitlin) producing a greater variety of sentence patterns within six of the eleven functions. No gender differences were found across developmental levels (research question 9).

## CHAPTER 8

### Conclusions

This study was conducted from a socio-psycholinguistic/emergent writing perspective and confirms some findings of previous studies of young children's writing, as follows:

- Writing involves the integration of language systems, specifically, pragmatics, semantics, syntax, and orthography (Goodman, et al., 1987); first grade writers orchestrate these systems (Harste, Woodward, & Burke, 1984) as they write from the beginning of their first-grade year (Chapter 7);
- Writing in first grade can be seen as part of a developmental process beginning in the preschool years (Teale & Sulzby, 1986) in which:
  - children's growth in writing can be understood as part of their development as symbolizers, with aspects of writing related to drawing and talking (Vygotsky, 1978); children need to discover the ways in which drawing, talking, and relate to each other and the ways in which they are differentiated (Ferreiro, 1990) (Chapter 5);
  - children construct the written symbol system for themselves (Ferreiro, 1985, 1990) and also internalize social action (Vygotsky, 1978; Dyson, 1989) (Chapters 5 and 6) ;
  - various levels of writing form emerge through a series of

successive approximations towards conventional forms, although development is not a “straight line” (Holdaway, 1984; Klein, 1985) (Chapters 5 and 6);

- developmental patterns may be observed, but also differences between children both in timing and in the ways in which they progress in learning to write (Dyson, 1989) (Chapter 7);
- much of what children learn about writing occurs without formal instruction, through active engagement with print, particularly through modelling and interaction of adults and through opportunities to explore writing independently (Teale & Sulzby, 1986) (Chapters 4, 5, and 6).

In addition to confirming previous findings as noted above, this study describes the functions, forms, and function-form interrelationships of first grade writing. The study provides evidence that:

- . Children write for a variety of purposes in first grade. Function does not appear to be developmental in first grade writing. Rather, individual children have different preferences for various writing functions and these preferences change over time. Interactive writing is produced more frequently by girls than boys. There is a trend towards multifunctionalism as the first-grade year progresses (Chapter 4).
- . Children compose whole written discourses from the beginning of first grade (Chapter 5).

- . Discourse-level structure increases in both variety and complexity in the first grade year. Individual children have preferences for certain genres. At the end of first grade children considered by the teacher at the beginning of the year to be “advanced” in writing development write in more complex genres than those children considered by the teacher to be “average” or “delayed”. Interactive forms are produced more frequently by girls than boys but there are no gender differences in complexity (Chapter 5).
- . Children can write sentences from the beginning of their first grade year. Common sentence patterns occur within each writing function. At the end of first grade the writing of children considered by the teacher at the beginning of the year to be “advanced” in writing development write a greater variety of sentence patterns than those children considered to be “average” or “delayed” in development. There are no gender differences in syntax or syntactic complexity (Chapter 5).
- . Segmentation of ideas into words and sentences increases in conventionality as the school year progresses, with segmentation into sentences becoming conventional before segmentation into words. At the end of first grade, children considered by the teacher to be “advanced” in development at the beginning of first grade produce more conventionally segmented writing than children considered to be “average” or “delayed”. There are no gender differences in segmentation (Chapter 6).

- First grade children use a variety of punctuation marks in their writing in increasingly conventional ways. At the end of first grade, children “advanced” in development use a greater variety of punctuation marks than “average” or “delayed” children, and their punctuation is also more conventional. There are no gender differences in punctuation (Chapter 6).
- There is an increase in conventionality in the use of lower case and capital letters in first grade, with “advanced” children showing a greater degree of conventionality at the end of first grade than “average” or “delayed” children. There are no gender differences in conventionality in the use of lower case and capital letters (Chapter 6).
- The ability to segment words into phonemes and represent them in writing increases during the first grade year, as does the degree of decodability of non-standard spellings and the proportion of standard spellings. In comparison to “average” and “delayed” children “advanced” children’s writing reveals a greater degree of phonemic segmentation and representation, decodability of non-standard spellings, and proportion of standard spellings. There are no gender differences in spelling (Chapter 6).
- Discourse-level form and sentence-level form “follow” function. Within each function, at the end of first grade, “advanced” children produce more complex text-level forms of writing and a greater variety of sentence-level forms than children considered to be

“average” or “delayed” in development. There are no gender differences in discourse-level form or sentence-level form (Chapter 7).

- Orthographic form does not follow function (Chapter 7). Changes in orthography throughout the first grade year are due to development and experience with writing. At the end of first grade the writing of children considered by the teacher at the beginning of the year to be “advanced” in writing development write more conventionally in terms of punctuation and spelling than those children considered by the teacher at the beginning of the year to be “average” or “delayed” in development. There are no gender differences in orthography (Chapter 6).

### Learning to Write in First Grade

The boys and girls in this study learned a lot about writing in their first grade year. From the beginning of the year they used writing for a variety of functions. Through using writing for authentic purposes they acquired knowledge of a variety of forms of discourse and a variety of syntactic patterns. In addition, they also learned much about the orthographic system of written English, specifically, segmenting ideas into words and sentences, capitalization, punctuation and spelling. From the beginning these young writers orchestrated their knowledge of written language, making complex decisions to fashion semantic, syntactic, lexical and orthographic pieces into whole written discourse. As the year progressed, their knowledge of the written language

systems grew and their written products became more complex, more varied and more conventional.

The children in this study learned written language on several levels simultaneously in a classroom rich with language and literacy. Daily they heard written language as the teacher read to them and saw demonstrations of the writing process as they collaborated with each other and the teacher to produce the "Morning News". They wrote daily for many functions and in many forms because their teacher incorporated writing activities into classroom experiences to capitalize on: the children's individual needs and interests, on the needs and interests of the children as a classroom community and on the requirements of the different curriculum areas, such as science and social studies. The teacher provided the children with abundant opportunities to explore, experiment, and play with writing independently. As well, the teacher frequently interacted with individual children to "scaffold" their writing attempts by providing assistance where needed and to pose questions to stimulate a child's thinking.

The teacher stressed the "skills" of writing (orthographic conventions) for these first grade children, but instruction was not in a "scope and sequence" pattern, nor was it separated from the process of writing. Rather, orthographic conventions were modelled, discussed, and practised in context, either in a group writing activity such as the "Morning News" or with an individual child in a "writing conference". Critics of such approaches to teaching "skills" have suggested that children will not learn "essential phonics skills" without a scope and sequenced phonics programme (Gunderson & Shapiro, 1987) and direct instruction of skills in isolation. As with another recent study of first grade

children in a “whole language classroom” in British Columbia (Gunderson & Shapiro, 1987, 1988) this study appears to demonstrate that first grade children can and do learn “essential phonics skills” (as well as many other formal aspects of written language) when orthographic conventions are modelled through collaborative writing and taught in the context of the writing process.

### Pedagogical Implications

Several pedagogical implications emerge from this study for curriculum development, for instruction and evaluation, and for teacher education.

#### Implications for Curriculum Development

Based on the results of this study, there are four main implications for curriculum development:

##### *Function should be emphasized in a first-grade writing curriculum*

(Chapter 4). Because “literacy is not simply a set of skills; it is a social activity” (Dyson, 1984b, p. 262), a writing curriculum should emphasize the purposeful use of writing. If children are to learn to use writing for a variety of functions, the curriculum should build on children’s functional knowledge of written language and related symbol systems such as talking and drawing. The curriculum should provide for the expansion of children’s repertoires of writing functions to include a variety of personal and social functions and functions appropriate to other disciplines (for example, to use writing in mathematics, social studies, and science to inquire - Halliday’s “heuristic” function, to classify, order and organize information, and to explain). In addition, a writing curriculum should incorporate

the epistemic function of writing - writing as an assist to thinking (Klein, 1977).

*In a first-grade writing curriculum, forms should be viewed as ways of making meaning, stressing appropriateness and effectiveness of form to function* (Chapter 7). Function and form are interrelated. In a functional, meaning-focused writing curriculum, form is considered not as an end in itself, but rather as a means to achieve one's purpose. The curriculum should build on children's existing knowledge of form and aim to increase their knowledge in both depth and breadth, with increasing sophistication and control of genres and syntactic forms as well as expanding children's repertoires of forms. Because children learn functional and formal principles in an integrated manner, formal knowledge is considered in context rather than isolated from the process of writing. As well, because children are learning about many levels of form simultaneously, downplaying orthographic conventions in the early stages of writing would encourage a focus on more global concerns such as making meaning rather than local concerns such as punctuation and spelling. To focus on punctuation and spelling "to the near-exclusion of the content and purpose of written communication, and of the mode of thinking that these characteristically involve, is to stunt the development of literacy rather than to promote it" (Wells, 1985, p. 249).

*A first-grade writing curriculum should be broad in scope and address the complexity of written language* (Chapters 4, 5, 6). Three aspects to language development should be considered in a writing curriculum: learning language, learning through language, and learning about language (Halliday, 1982). Instruction should provide for the development of metacognitive and

metalinguistic awareness to foster children's ability to talk and think about ideas and language. Furthermore, the curriculum should also address attitudes and dispositions towards writing as well as processes, skills, and knowledge.

*Growth in writing should take into account developmental processes* (Chapters 4, 5, 6). Instruction should build on the knowledge children have about writing before they come to school and acknowledge the diversity in children's prior knowledge and development. Because writing growth occurs on many levels, through a series of successive approximations and "fine tuning" (Harste, Woodward, & Burke, 1984) there is no one pattern of development. Rather than being linear, growth in writing is multi-faceted and multi-dimensional. Thus, a first-grade writing curriculum should allow for variations in time and developmental patterns rather than imposing arbitrary time limits or an artificial "scope and sequence". "A simplification achieved by dealing firstly with letters, then with words, and finally with word groups may be easy for teachers to understand but children learn on all levels at once" (Clay, 1975, p. 19).

#### Implications for Instruction and Evaluation

Junior primary schools have a responsibility to come to terms with the developmental alternative to the instructional model. They must abandon the aggressive intervention of formal instruction and recognize that the proportion of teaching will never equal the proportion of learning. They must reassess the basic assumptions upon which the schooling system functions: a) that learning stems primarily from direct instruction; b) that teaching is based on a curriculum broken down into discrete teachable parts; c) that those segments may be assigned a binary (right-wrong) status, within which only one response is right; d) that learning tasks will be controlled or programmed extrinsically by teachers; e) that the responsibility for attention, effort and application is properly placed upon the learner (Potter, 1986, p. 630).

As Vygotsky (1978) suggests, written language must be “cultivated rather than imposed”. The skills children learn are constrained or fostered by the particular cultural and educational contexts (Heath, 1983; Scribner & Cole, 1983; Langer & Applebee, 1986), and thus, there is a greater concern for the environment which fosters literacy than for instructional techniques alone. In the same way that parents provide young children with a “language acquisition support system” (Bruner, 1983), first grade teachers need to provide a “literacy acquisition support system”. Many of the implications from this study concern the creation of such a system as teachers design an enabling classroom environment to enhance rather than inhibit writing development. Therefore, first grade teachers should:

*relate writing to children's individual needs* so that children may use writing for a variety of personal functions (Chapter 4);

*acknowledge and use the social aspects of learning* to create an environment where literacy is a means of participating in the classroom community as children are “immersed in compelling and meaningful relationships that are mediated by the written word” (Gundlach et al., 1985, p. 51), and where both boys and girls use writing for a variety of social functions (Chapter 4);

*recognize the crucial role of interaction*, especially that of a supportive adult who negotiates a child's “zone of proximal development (Vygotsky, 1978) through “scaffolding” (Wood, Bruner, & Ross, 1976), thereby encouraging the child to do as much as he or she can while assisting with those things a child finds too difficult to do alone (Chapter 5);

*provide frequent opportunities for children to practice writing, many of these playful* (Emig, 1981, p. 25), so that children may learn to write by writing - experimenting with its functions and forms (Chapter 7);

*utilize the power of modelling as an instructional strategy* providing children with demonstrations of writing in use and opportunities to further their knowledge of how written language functions and to increase the children's repertoires of a written language forms (Chapter 7);

*view errors as integral to learning and as signs of growth*, thus freeing children to make mistakes as they try out new aspects of written language, and using their errors as sources of information that reflect what the children know about written language (Donaldson, 1978);

*use developmentally appropriate evaluation techniques* such as dated writing samples and careful observation, which means "assessing his [or her] skills with sensitivity and accuracy, understanding the levels of his [or her] confidence and energy, and responding to his [or her] errors in helpful ways" (Donaldson, 1978, p. 115).

### Implications for Teacher Education and Professional Development

Emerging written language is a developmental process just as emerging oral language is .... Now, our increased knowledge about how young children learn to write mandates the responsibility to enable this natural language process to occur too (Hoffman & McCully, 1984, p. 49).

The suggested changes in first grade curriculum and instruction as a result of the findings of this study imply a shift in teacher education and professional development. This is critical because language is "the warp and

woof of the whole academic curriculum" (Moffett & Wagner, 1983). If teachers are to develop curricula consistent with the findings in this study they need:

- an understanding of the nature of language as a system for making meaning;
- knowledge of children's development in thinking and symbol use;
- a repertoire of appropriate instructional and evaluation practices.

As well, the movements of "teachers as researchers" and "reflective practitioners" are encouraging teachers to learn about children's learning by carefully observing the children in their own classrooms (Jaggar, 1985).

#### Future Research Possibilities

The details of the development of the first-grade writers in this study may well be particular to these children. However, the analyses of the writing of the six children in this study should allow insights into intricacies of written language development in first grade and demonstrate a continuity in the development of writing in first grade with writing development in the preschool years. As well as providing some insights into writing development, it also raises new questions and possibilities for future research, specifically:

- does immersion in authentic literacy experiences where children use writing purposefully provide sufficient opportunities for **all** children to develop as writers?
- does immersion in authentic literacy experiences where **adults** use writing purposefully provide sufficient opportunities for

illiterate adults to develop as writers?

- . what are the functions and forms of writing in other first-grade classrooms and how do they change?
- . what are the functions and forms of writing in subsequent school years?
- . can discrete measures for function and form be developed, or are function and form so inextricably linked that this task is not possible?
- . what patterns of development would be evident if one studied the functions and forms of writing over the four years of the primary grades?
- . are there gender differences in function, specifically the interactive function of language, in oral language in first grade?
- . are there gender differences interactive writing, in other classrooms?

As Gundlach (1981) suggests, "there is at best an indirect relation between what children are taught about writing and what they learn" (p. 134). It is hoped that this study provides some insight into how children learn to write in first grade when they are provided with an environment which fosters literacy development.

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