

TEXT AND TEXTURE OF CHILDREN'S INQUIRY:

ACCEPTED Grade 1 Children Constructing Knowledge of Narrative Text

ACADEMY OF GRADUATE STUDIES

by

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B.Ed., University of British Columbia, 1985

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9/1/09/19

A Dissertation Submitted in Partial Fulfillment of the  
Requirements for the Degree of

DOCTOR OF PHILOSOPHY

in the Department of Communication and Social Foundations

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**ABSTRACT**

This dissertation focuses on Grade 1 children's inquiry of narrative text over a three-month period. The children were read to as a group by the classroom teacher and individually by Grade 7 students, a grandparent helper, and a peer. They also read to themselves. There were ten subjects for the group context and six subjects for each other context.

The data consist of audio-tapes and field notes from the five contexts. In addition three interviews were conducted with the classroom teacher and a think-aloud procedure was carried out with six of the subjects at the conclusion of the study. The children's statements were analyzed to determine if they inquired about narrative text and to explore the nature of their inquiry. The teacher interviews were analyzed to discover the teacher's perception of her role in the children's inquiry. The results from the think-aloud procedure were compared with results from the group context to determine if the findings were similar.

A definition, description and list of skills of inquiry in the language arts was developed and applied to the children's statements to identify the statements that represented inquiry. Six categories that could be used to describe the nature of the children's inquiry statements

emerged from the data. Each of these categories was made up of a variety of more specific classes.

The children made more inquiry statements in the group context than in any other context. There were individual differences in the degree to which the children inquired about narrative text, and the text, the teacher's actions and the social context influenced the children's inquiry. The children used a variety of cognitive processes to inquire about text.

The children's inquiry statements were evoked by the text, the children and the teacher. The focus of the children's inquiry statements was knowledge not explicitly evident in the text. Their statements took a variety of forms, and declaratives, not questions, were the predominant form. Although they inquired about a variety of subject matter, actions of characters and cause/effect relationships was the content of the majority of their inquiry statements. The function of most of their inquiry statements was the transmission of propositional knowledge and explanations.

This study contributes to the existing literature in several ways. First, it provides a framework for considering children's inquiry and their involvement in learning. Second, it illuminates the relationship between the child, the text and the context in children's interactions with narrative text. Third, it reveals the complex and idiosyncratic nature of children's inquiry of narrative text.

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## TABLE OF CONTENTS

	Page
Abstract . . . . .	ii
Table of Contents . . . . .	iv
List of Tables . . . . .	viii
Acknowledgements . . . . .	x
Dedication . . . . .	xii
Chapter One – Introduction . . . . .	1
Purpose of the Study . . . . .	1
Rationale . . . . .	2
Research Questions . . . . .	5
Definition of Terms . . . . .	6
Theoretical Assumptions . . . . .	8
The Children . . . . .	9
The Texts . . . . .	11
The Teacher . . . . .	12
The Setting . . . . .	13
The Structure of the Dissertation . . . . .	15
Summary . . . . .	17
Chapter Two – Review of the Literature . . . . .	18
Active Learning . . . . .	21
Questioning . . . . .	22
Models and Principles . . . . .	23
Form, Function and Content . . . . .	25
The Interactive-Constructive View of Reading . . . . .	31
The Interaction . . . . .	33
Prior Knowledge . . . . .	33
Context . . . . .	35
Constructing Meaning . . . . .	36
Listening, Viewing and Constructing Meaning . . . . .	37
Inquiry . . . . .	38
Curiosity . . . . .	41
A Conceptual Framework . . . . .	42
Summary . . . . .	50
Chapter Three – Methodology . . . . .	51
Methodological Assumptions . . . . .	53
Design . . . . .	56
Subjects . . . . .	56
Data Collection . . . . .	57
Contexts . . . . .	58
Phases . . . . .	61
Baseline Phase . . . . .	61

	Page
Intervention Phase . . . . .	62
Retention Phase . . . . .	64
Data Analysis . . . . .	67
Transcription Conventions . . . . .	69
Data . . . . .	70
Audio-tapes . . . . .	70
Field Notes . . . . .	74
Interviews . . . . .	74
Inquiry in the Language Arts . . . . .	75
Definition . . . . .	75
Description . . . . .	76
Skills . . . . .	80
Nature of the Inquiry . . . . .	82
Process . . . . .	82
Evocation . . . . .	83
Referent . . . . .	85
Form . . . . .	87
Content . . . . .	88
Function . . . . .	90
Inquiry Statements . . . . .	92
Validity Checks . . . . .	96
Summary . . . . .	98
Chapter Four – Results and Discussions . . . . .	100
Inquiry in the Language Arts . . . . .	102
The Children . . . . .	118
The Texts . . . . .	127
The Teacher . . . . .	131
Reading the Story . . . . .	141
Questioning . . . . .	142
Thinking . . . . .	142
Modeling . . . . .	143
Inviting . . . . .	143
Nature of the Inquiry . . . . .	147
Process . . . . .	148
Evocation . . . . .	149
Referent . . . . .	159
Form . . . . .	161
Content . . . . .	174
Function . . . . .	189
Think-Aloud Procedure . . . . .	204
Process . . . . .	209
Evocation . . . . .	209
Referent . . . . .	210
Form . . . . .	210
Content . . . . .	212
Function . . . . .	213
Summary . . . . .	216

	<b>Page</b>
Chapter Five – Conclusion . . . . .	217
Summary of the Findings . . . . .	217
Strengths of the Study . . . . .	229
Limitations of the Study . . . . .	230
Implications . . . . .	233
Future Research . . . . .	233
Practice . . . . .	234
References . . . . .	236
Appendix A: Annotated Bibliography of Stories for the C/T Context . . . . .	248
Appendix B: Schedule of Data Collection for C/T, S/S, S/A, S/B, S Contexts . . . . .	253
Appendix C: Schedule of Stories for C/T Context . . . . .	254
Appendix D: Teacher Interview Script #1 . . . . .	255
Appendix E: Teacher Interview Script #2 . . . . .	256
Appendix F: Teacher Interview Script #3 . . . . .	257
Appendix G: Data Analysis Codes . . . . .	258

## LIST OF TABLES

Table	Page
1. Form, Function and Content of Children's Questions . . . . .	32
2. A Comparison of the Principles of Reading and Questioning . . . . .	39
3. A Comparison of Questioning, Inquiry and Curiosity . . . . .	43
4. Function of Children's Statements During Story Reading . . . . .	93
5. Children's Interaction with <u>Yellow and Pink</u> . . . . .	94
6. Inquiry Statements by Subjects for Texts . . . . .	106
7. Statements Representing Stages of the Inquiry Process . . . . .	110
8. Frequency of Inquiry Skills by Text . . . . .	113
9. Number of Texts and Frequency of Inquiry Statements . . . . .	119
10. Percentage of Inquiry Statements by Subjects . . . . .	124
11. Percentage of Inquiry Statements for Subject and Ability . . . . .	125
12. Percentage of Inquiry Statements for Text and Contexts . . . . .	129
13. Frequency of Inquiry Statements of Six Subjects for Five Contexts . . . . .	146
14. Percentage of Inquiry Statements for Text and Student Evocation . . . . .	156
15. Evocations for Inquiry Statements . . . . .	160
16. Frequency of Interrogative and Non-interrogative Inquiry Statements . . . . .	165
17. Frequency of Forms for Direct Interrogatives . . . . .	169
18. Percentage of Forms for Indirect Interrogatives for Children and Teacher . . . . .	172

<b>Table</b>	<b>Page</b>
19. Frequency and Percentage of Content of Inquiry Statements . . . . .	177
20. Percentage of Detailed Content of Inquiry Statements . . . . .	179
21. Percentage of Content for Subjects' Inquiry Statements . . . . .	183
22. Classification of Functions of Inquiry Statements . . . . .	195
23. Functions of Inquiry Statements . . . . .	196
24. Functions of Inquiry Statements by Child . . . . .	199
25. Percentage of Major Functions for Each Child's Inquiry Statements . . . . .	201
26. Form of Inquiry Statements for TA and C/T Contexts . . . . .	211
27. Content of Inquiry Statements for TA and C/T Contexts . . . . .	213
28. Function of Inquiry Statements for TA and C/T Contexts . . . . .	215
29. Explanation Function of Statements in TA and C/T Context . . . . .	215

### ACKNOWLEDGEMENTS

I wish to thank the members of my committee, Dr. Terry Johnson, Dr. Norma Mickelson, Dr. Thomas Fleming and Dr. Larry Yore for their patience, interest and encouragement. My thanks also to Dr. Arthur Olson for serving as my co-supervisor during parts of this study. I would particularly like to thank my supervisor, Dr. Terry Johnson, for sharing with me his wit, his inquisitive mind and his scholarship. Special thanks also to Dr. Larry Yore for being such a thoughtful and resourceful advocate. I would also like to thank Dr. Alison Preece for her understanding and infectious enthusiasm. Her empathy and wise counsel helped to smooth rough roads and bandage skinned knees. My thanks also to Dr. Deborah Court for her probing interviews and the opportunity to share my excitement about this study with her students.

My thanks to Jodie Esch, Robin Bright, David Mather and Rochelle Pitcher for checking the accuracy of my student identification, coding and transcriptions. To two very special soul mates, Robin Bright and Susan McRea - thank you for helping me to clarify my thinking, for sharing in my excitement and for providing moral support, whether needed or not.

I would like to thank sincerely, Jodie Esch, for inviting me into her classroom to share in the exciting interaction that occurred between her, her students and the

literature she loves. Her ongoing interest, in spite of her hectic schedule, was most appreciated. Thanks also to Freda O'Sullivan, the Grade 7 students, and the grandparent helper for their assistance with the audio-taping. Thanks also to Nori Firtel for her patience and expertise in preparing this manuscript and ensuring that English usage and style were up to scratch. Finally, thank you to ten special children who opened their minds and hearts to me and provided me with so much cause for excitement and food for thought.

DEDICATION

To Terry Michael and Shannon

*my counsel - dream dreams*

*my hope - you realize your dreams*

*my thanks - for your part in my dream*

## CHAPTER 1

### INTRODUCTION

The existence of inquiries is not a matter of doubt. They enter into every area of life and every aspect of every area. In every day living [people] examine; they turn things over intellectually; they infer and judge as naturally as they reap and sow and exchange commodities (Dewey, 1938, p. 102).

If inquiries enter into every area of life and every aspect of every area, do Grade 1 children engage in inquiry of narrative text? If people naturally examine, turn things over intellectually, infer and judge as part of their inquiries, what is the nature of Grade 1 children's inquiry? The focus of this research was children's inquiry – their inquiry of narrative text.

This introduction presents the purposes and rationale for the study. It also contains the research questions, definitions of terms and theoretical assumptions. A description of the children, the teacher and the setting of this study concludes the introduction.

#### **Purposes of the Study**

The purposes of this study were twofold: to ascertain whether or not six Grade 1 students engaged in inquiry of narrative text and, if so, to explore the nature of their inquiry; to describe the process and the results of a teacher's efforts to encourage inquiry of Grade 1 students.

### Rationale

Educational theory suggests that students should be involved in their learning. This involvement refers to cognitive as well as physical activity. Hunkins (1976), Rothkopf (1970) and Susskind (1979) regard student questioning as critical to cognitive involvement.

Question asking is an expression of inquiry (Allender, 1969; Berlyne & Frommer, 1966; Suchman, 1961, 1962). Berlyne (1970) characterized questioning as a form of epistemic behaviour – the acquisition of knowledge. He suggested that questioning was motivated by epistemic curiosity and induced by conceptual conflict. Smith (1982) suggested that student questioning facilitates the interactive process of constructing meaning from text.

Shulman (1965) referred to inquiry as an attempt to resolve incongruity and regarded questioning as one aspect of inquiry. Focusing on questioning as only one of various expressions of inquiry provides a broad perspective for considering students' attempts to resolve conceptual conflicts as they interact with text. By limiting the evidence of children's inquiry to questions, other verbalizations that may indicate the attempt to construct meaning are excluded. For example, comments such as the following may reveal much about how children interact with text. "They look like robots." "It looks like it's going to be a sad story." "He's just tricking him." "Oh. There

was, now I know. There was pink on the hill with little buttons and he rolled down the hill and he got on the colour."

Reading is currently portrayed as interactive/transactive (Guthrie, 1981; Langer & Smith-Burke, 1982; Spiro, Bruce & Brewer, 1983) and constructive (Langer, in press; Rumelhart, 1980; Spiro, 1980; Tierney & Pearson, 1986). From this interactive-constructive perspective the reader interacts/transacts with text and context in order to construct meaning from text. Valencia and Pearson (1987) depicted readers as active learners who use clues from text in concert with prior knowledge, environmental clues and social context to construct meaning. Reader response theory postulates that text contains cues and the reader uses these cues to construct meaning (Iser, 1978; Rosenblatt, 1981). This meaning is not fixed but is based upon the dynamic interaction of reader and text. Watson (1985) pointed out that narrative text often omits details related to dialogue and the story line. Iser (1978) referred to these gaps as vacant pages. He suggested that it is these gaps which are pivotal in the dynamic reader-text relationship. That is, they give rise to the communication between reader and text. Green and Harker (1982) view the situation in which stories are read to children as an interactive communicative act between reader, text and listeners in which the listeners are involved in the same process as readers in interacting

with text in order to construct meaning.

Teachers tend to ask the questions when they share narrative text with children. This results in students reading and/or listening to respond to the teacher's questions and not their own. Hunsberger (1985) suggested that the role of the teacher should be to facilitate the dialogue between reader and text.

Several generalizations can be made about previous studies of inquiry and questioning. First, inquiry has not been explored within the context of an interactive-constructive approach to reading, an approach which views the child as interacting with text to construct meaning and inquiry as an aspect of this interaction. Second, verbal expressions of inquiry behaviour have been limited to questions. Third, studies cited in the literature have generally focused on children's classroom questioning generally or questioning in experimental settings with fragmented or manipulated texts. Studies have not considered children's questioning of naturally occurring text in a classroom context.

This study differs from previous studies in that it was an investigation of children's overt inquiry of naturally occurring text within the classroom context. Children's questioning was regarded as one of several verbal expressions of inquiry and inquiry was viewed as the children's attempts to construct meaning from text. Since

much student time in school is spent interacting with text, this exploration of children's text inquiry sheds light on a critical, dynamic, unexplored field, contributes to knowledge and understanding of the nature of children's text inquiry and provides direction for educators as they attempt to facilitate and encourage children's interaction with text.

In summary, the rationale for this study was based on a perception that children should be involved in their learning, that student questioning is critical to active learning and that questioning is one expression of inquiry. Although both inquiry and reading are viewed as the construction of knowledge, research to date has failed to explore children's inquiry from the perspective of constructing meaning from text.

### **Research Questions**

Based on the purposes of this study and the previously stated rationale, the following questions provide the framework around which the study was constructed.

1. If the teacher instructs students in text inquiry and creates conditions that encourage text inquiry will subjects across ability levels inquire about text in the five contexts described below?

C/T - the class of 10 Grade 1 students is read to by the classroom teacher

- S/S - the subjects in pairs read the products from writer's workshop to each other
- S/B - the subjects are read to by Grade 7 student buddies.
- S/A - the subjects are individually read to by an adult volunteer
- S - the subjects reads to themselves during uninterrupted, sustained, silent reading (U.S.S.R.)

2. If the subjects engage in inquiry of narrative text what will be the nature of the inquiry?

#### Definition of Terms

For this study the following definitions apply:

statement - continuous dialogue uttered by a speaker. If another speaker interjects as the original speaker speaks and the original speaker continues his/her utterance, the utterance is regarded as one statement. Statements range from one word to several sentences in length.

inquiry - a search for and a construction of knowledge.

inquiry statement - a statement that indicates a search for and a construction of knowledge.

inquiry process - the cognitive process engaged in during the search for and construction of knowledge.

context of the inquiry statement - the cognitive, social and textual environment in which the inquiry statement occurs. The cognitive environment refers to

the thinking processes exhibited. The social environment refers to the factor in the environment that evokes the inquiry (text, teacher or student). The textual environment refers to whether the inquiry statement refers to information that is text based, beyond text or unrelated to text.

nature of the inquiry statement – the form, function and content of the inquiry statement. Form refers to the grammatical features of the statement. Function refers to the purpose of the inquiry statement. Content refers to what the speaker is talking about.

text – defined variously as: existing only as a product of the reader (Fish, 1976); "as simply ink and paper unless a reader transforms its marks into verbal symbols" (Rosenblatt, 1981, p. 19); "guidance for the reader as to meaning to be produced" (Iser, 1978, p. 107); "some aggregate of language which holds together in some way" (Goodman & Gespass, 1983, p. 3); the point at which readers and writers interact (Smith, 1982). It must be remembered that different texts allow readers differing degrees of freedom in the meaning to be constructed from the text. Since this study involves narrative text, text in this study will be regarded as "Guidance for the reader as to meaning to be produced" (Iser, 1978, p. 107) and the point at

which readers and writers interact (Smith, 1982). Because viewers interact with illustrations just as they do with words (Castle, 1986), text refers to the print and the illustrations.

### **Theoretical Assumptions**

This study is based on the following assumptions. These assumptions relate to the nature of learners, reading and inquiry.

1. Children are active learners whose behaviour is purposive (Marshall & Rossman, 1989), who attempt to find out for themselves (Ripple & Rockcastle, 1964) and who think and question (Hunkins, 1976). Their learning activity represents their understanding of the world (Rowland, 1986) and is "an active and purposeful expression of significant ideas" (Rowland, 1986, p. 27).
2. Reading is an interactive-constructive process in which the reader (or listener) interacts with text and context in order to construct meaning (Langer & Smith-Burke, 1982; Tierney & Pearson, 1986; Valencia & Pearson, 1987).
3. Inquiry is amenable to study (Allender, 1969; Dewey, 1938).
4. The purpose of inquiry is to construct meaning (Boyd, 1972; Dewey, 1938; Nelson, 1976).

5. Inquiry is covert and overt. Because a child is not engaging in observable inquiry, it cannot be assumed that the child is not engaging in inquiry activity.

### **The Children**

The children whose inquiry is the focus of this study were a group of 10 Grade 1 children in many ways no different than any other group of children in classrooms everywhere. The names of the children were changed to protect their anonymity. Mark was a delicate, quiet, reflective boy. The classroom teacher referred to him as immature but bright. Even though he appeared to enjoy stories he seemed hesitant to make comments or join in any discussion about the stories being read. Ryan was a big boy with a booming voice. He was argumentative, confident and very excitable. During story time he interacted continually with the teacher, the text, and the other students. Ryan appeared to relish being the centre of attention. David never stopped moving. He constantly made faces, changed positions, moved his arms and twisted his legs. Although at first glance he appeared inattentive, he always seemed to be aware of what was happening in the story and took an active part in the interaction surrounding a story. He was tall, shy and seemed to experience a great deal of difficulty reading. Shawn was a cheerful, artistic, sensitive boy with a keen sense of humour. His eyes lit up when he talked

about snakes, lizards, spiders or anything to do with science and nature. Stacey appeared to be the matriarch of the group. She seemed mature, strong willed, confident, competent and worldly wise beyond her six years. She attempted to dominate discussions and organize the other children in the classroom. Stacey could read very well. Tessa was a fetal alcohol syndrome child. Her frequent tantrums, aggressive behaviour and poor social skills did not make her popular with the other children. She seemed fond of dancing, make-up and fashion and wore her thick, long blond hair fastened with a different ribbon or ribbons every day. Lindsay's hands shook constantly. She was continually pressured to succeed by her parents. She was hard working, serious, and very cautious and deliberate in what she said and did, even during story time. Elizabeth seemed comfortable with who she was. She was pleasant, relaxed and friendly. She was cooperative with adults and students alike and was always sought after by other students to take part in activities during and after school. Jean appeared determined to see justice done. She reminded Jodie and the other children when something was not fairly distributed or some children were given an unfair advantage. Jean was nervous, hard working and eager to please. Brad's face served as a window on his mind. His brow would furrow or his eyes widen as the story puzzled or intrigued him. Then he would break into a broad smile as he appeared to

resolve the mystery or problem. He was a dishevelled, stocky little boy with glasses. He was enthusiastic, had a sense of humour and a constant twinkle in his eye.

This group of 6 and 7-year-olds constituted the Grade 1 component of a Kindergarten-Grade 1 class. These 10 children attended school in the morning and were joined for the afternoon by 13, 5 and 6-year-olds.

### The Texts

Before the beginning of the study and every two weeks during the study, the researcher brought a small collection of books to the school for Jodie and Mrs. Chambers. Jodie decided this would save her the time required to select books and would serve as a source of books that the children had not seen in the class or the school library. Books were selected from book lists and recommendations from knowledgeable teachers. The stories were short and contained a variety of themes, plots, characters and settings. Before Jodie read to the children she usually chose one of the books quickly, scanned it and began to read. Only three of the twenty-four stories Jodie read to the children had previously been read to them by the librarian or other teachers (Caps for Sale, Benjamin's 365 Birthdays, and Wilfred Gordon MacDonald Partridge). Only two children had been read any of the books at home (Shawn, Tillie and the Wall; Jean, The Garden of Abdul Gasazi). In only two instances had Jodie previously read any of the

books. She had read one to these children (Caps for Sale) and the other one to her own child (The Very Last First Time). An annotated bibliography of the books Jodie read is found in Appendix A. None of the stories read by Mrs. Chambers had previously been read by her or the children. At Mrs. Chambers' suggestion, the researcher selected the stories for Mrs. Chambers to read.

### **The Teacher**

Jodie, the children's teacher, was five feet of boundless energy. She facilitated and cooperated in this study and participated in the children's inquiry. Jodie had 16 years of teaching experience at the primary level. She was knowledgeable, enthusiastic and flexible. She had always had an interest in theatre and received her B.Ed. in early childhood education and children's theatre in 1970. She completed her M.Ed. in early childhood education and was exploring opportunities to obtain her Ph.D. Shortly after receiving her B.Ed. she became a sessional lecturer at a provincial university for four terms. She then returned to the classroom, presented workshops throughout the province on early childhood education and whole language and, with the introduction of a new provincial primary curriculum, became an integral part of a team of teachers implementing the curriculum in her district. She was active professionally and had served a term as president of the local Primary Teachers' Association.

Jodie had been in her school district for 10 years and in her school for two years when she invited me into her classroom to carry out this study. She expressed an interest in being involved with classroom research and had been referred to me by another graduate student. Shortly before the beginning of this study Jodie was appointed acting vice-principal of her school, and shortly after the research began she was seconded by the Ministry of Education for a period of eight days.

#### **The Setting**

The classroom in which the study was conducted was small but bright and attractive. The room was "littered with print" in the form of books, charts, word cards, labelled pictures and a variety of other reading materials. The children worked, played and learned individually, in flexible small groups and as a whole group at the teaching and learning centres, the open carpeted areas and the large round tables. The children were often read to by their peers, older students, classroom visitors, the school librarian and Jodie. They were allowed a great deal of freedom and flexibility and encouraged to work, play and talk together.

The unpaved parking lot, the lack of flowers and shrubs, and the grey cement block exterior of the school belied the vibrant, exciting, friendly atmosphere within. The school was 17 years old and of modular design. The

foyer of the school had examples of children's work and posters on the walls which extended a warm welcome or stressed the child-centred, supportive approach of the school staff. The primary divisions of the school were beginning to implement a child-centred, multi-aged, integrated approach to teaching and learning and served as a lead school in implementing this new province-wide approach. As a result there were often visitors in the school from many different parts of the province. Parents volunteered for a variety of activities and were actively involved in their school community. Teachers, staff and administrators in the school were committed, enthusiastic and supportive of each other, aware that they were breaking new ground, apprehensive of the task that they had undertaken, convinced of the value of the approach and determined to work together to be successful in their endeavour.

The school was located in a middle-class subdivision in Colwood, a small middle-class community located 30 kilometres from Victoria, British Columbia. All the children lived within walking distance of the school. The children's parents can be described generally as white-collar workers. Many either owned their own small business, worked for other small businesses or worked for the government in the nearby provincial capital. Many of the parents worked outside the community.

### **The Structure of this Dissertation**

A portion of this dissertation is structured as a narrative. The narrative form reflects the focus of the study and the ways in which the children constructed meaning of narrative text. The children constructed meaning by connecting objects, characters, actions and events and noting something was the cause of something else. They were creating narrative meaning. Therefore it seemed logical that a narrative account of their interaction would capture the central character of the process.

Bruner (1986) suggested that the process of constructing meaning occurs in two cognitive modes, the logico-scientific and the narrative mode. The logico-scientific mode creates meaning by searching for universal truth conditions, whereas the narrative mode creates meaning by looking for connections between events. This meaning is referred to as narrative meaning. Polkinghorne (1988) stated that narrative meaning is created by recognizing that something is a part of a whole. He believed that people organize their experience into meaningful wholes through the use of narrative. It is the organization of the events that gives meaning. Each event has meaning in relation to other events. This appeared to be the process underlying what the children were doing.

Polkinghorne (1988) and Richardson (1990) regarded the narrative code as valuable to the reader as well as the

writer. Polkinghorne viewed spoken or written narrative discourse as everyday stories used to explain actions and events. Richardson stated that the narrative code made events, actions, individuals, cultures and societies comprehensible as wholes.

In order to reveal the children's construction of meaning and to treat their interaction as a whole, their interaction with one narrative text is presented as a narrative. Each chapter of this account begins with a portion of that narrative. When combined, the portions constitute a complete narrative of the children's interaction with the story. The narrative of the children's interaction is a combination of the actual dialogue of the children and the teacher, the text which the teacher was sharing with the children, and the context within which the statements occurred. Merely providing the dialogue would present only a decontextualized version of the complete interaction. Each segment represents a substantial piece of the narrative so that the reader can observe each statement as part of a much larger whole. These segments serve as a contextual reference for and link between the children's interactions and the review of the literature and the methodology. They also provide initial examples for the data analysis and conclusions.

### Summary

In summary, this study was an attempt to determine if children inquire about narrative text, to explore the nature of that inquiry and to examine factors that influence the inquiry. The study focuses on children's statements as they interact with and construct meaning from text. The account of this interaction is presented as a narrative in order to present a comprehensive picture of that interaction.

## CHAPTER 2

### REVIEW OF THE LITERATURE

The conceptual framework for this study was developed from the literature on questioning, reader-text interaction, inquiry and curiosity. This chapter begins with a portion of the narrative of the children's interaction with a story titled Yellow and Pink (Steig, 1984). Following the narrative is a review of the literature on active learning and two topics covered in the literature on questioning: models and principles of questioning, and the nature of children's questions. The second focus of the literature review is the interactive-constructive process of reading. The final topics are research on inquiry and curiosity. The chapter concludes with the conceptual framework that evolved from this literature review and an application of this framework to the children's interaction with Yellow and Pink.

#### **Yellow and Pink**

*On rainy days the children went to their classrooms as soon as they arrived at school. Although they were supposed to be engaged in quiet activities, that was not the case that Monday. The energy and noise level in the room rose higher and higher and reached near fever pitch just as the morning bell rang. Settling the children down for the morning activities was quite a task.*

*The school day began. After the opening exercises Jodie asked the children to sit in front of the rocking chair because she was going to read a story. Jodie took the story from her desk and sat down in the rocking chair. Two small semi-circles of children sat close to her feet. Would the story settle them down*

and prepare them for the rest of the morning? Shawn returned from the bicycle rodeo. Jodie held the book up to the side so all the children could see. She began.

"Okay, here we are with a book called . . ."  
Before she could complete her sentence the class chimed in with ". . . yellow and pink." Jodie looked surprised. "Good reading," she said. "Yellow and pink," Ryan said — more to himself than anyone else.

"By William Steig," said Jodie.

Ryan noticed the back cover and called out, "and look on the back. There's yellow and pink." Jodie turned the book so the children could see the back cover. "That's right," she said, her eyes on the book. Elizabeth nodded in agreement, "Uh huh."

Elizabeth sat behind Lindsay and played with Lindsay's hair. Elizabeth looked from me to the book and back to me. Lindsay listened attentively. Every muscle in David's body was moving, but even as he wiggled and squirmed his eyes remained fixed on the book. Brad sat beside Mark. Brad's eyes did not move from the book. His expression was thoughtful. Mark sat quietly throughout the story. Tessa was restless. Her eyes wandered around the room and her hands played with everything within reach. Ryan sat behind the two small semicircles of children, throwing his contributions to the interaction from behind the team, a lone player out in the field. In the far corner of the room Mrs. Chambers, a grandmother who helped in the classroom, was cleaning the paint easel. The tap went on and off, on and off. Throughout the story there was a rattle of paint pots and brushes as Mrs. Chambers scrubbed, scraped and polished.

Jodie pointed to the two figures on the front cover. "Interesting. And look at how they've drawn the figures here with pencil and pen."

"They look like robots," said Ryan.

David shook his head and looked at Ryan. "They aren't. They're people."

A puzzled look came over Jodie's face as she looked at the picture on the cover. "I wonder what they're looking up in the sky about. It's pretty strange."

None of the children volunteered an answer.

"Pink and yellow," said Brad.

Pointing at the two characters and looking at the children, Jodie told the children to notice the specific outfits of the characters — yellow and pink. "Okay," she said. "Let's find out what yellow and pink is all about."

"I know," said David. It seemed David had been read every children's book ever published. He seemed to know every story Jodie read to the children.

Jodie opened the book to the title page. There were two chickens eating, a bird flying, and a pair of pink legs and a pair of yellow legs lying on the grass. "Goodness! Does this look like it's going to be a happy story?"

Elizabeth sounded worried. "No."

"It's hard to know," said Jodie.

Brad's eyes opened wider. "It looks like it's going to be a sad story."

"It looks like it's going to . . ." began Ryan. Then he looked at Brad. "Yeah, that's what I was going to say."

Jodie read the title. Ryan read the title. "Yellow and pink."

"Two small figures made out of wood were lying out in the sun one day on an old newspaper," read Jodie. "One was short, fat and painted pink; the other was straight, thin and painted yellow."

"Hello man," said David, as though he were one of the characters speaking.

Jodie continued. "It was hot and quiet and they were both wondering."

"Wondering what?" asked David.

"I wonder," replied Jodie, and then she continued reading. "After a while, the yellow one sat up and focused his gimlet eyes on the pink one. 'Do I know you?' he asked. 'I don't think so,' Pink answered. 'Do you happen to know what we're doing here?' asked Yellow. 'No,' said Pink. 'I don't even remember getting here.'"

Jodie brought the book down in front of her and looked at the children. "That's kind of a mystery."

"Someone made them and put them on there," said Ryan.

Jodie looked at Ryan. "I wonder if that's what happened?"

"How do you know?" said David turning to Ryan.

Jodie responded to David's challenging tone. "What do you think, David?"

"I don't want to tell because I already know this story," David answered.

"Oh really," replied Jodie, not convinced that was the case.

The transcript of the children's interaction with the story Yellow and Pink was revealing for several reasons. It was a transcript that contained many interesting student

statements and several examples of student-student and student-text interactions. In addition the transcription highlighted features of the literature on active learning, questioning, the interactive-constructive view of reading, inquiry and curiosity.

### **Active Learning**

Bruner (1961), Dewey (1916), and Piaget (1926) proposed that student involvement is necessary if education is to be meaningful. Anderson (1970) and Rothkopf (1970) pointed out that the activities the student engages in when confronted with educational tasks are critically important in determining what will be learned. Susskind (1979) stressed that students should exercise greater control of their own learning for reasons related to cognitive development and motivation. He pointed out that the child who feels the school is responding to his/her interests and curiosity will be eager to learn. Students who are involved in their learning attempt to find out for themselves (Ripple & Rockcastle, 1964), think and question (Hunkins, 1976). Unfortunately, interest in active learning seems to focus on questioning as verbal evidence of active learning. By doing so, researchers have ignored a variety of other verbal evidence of children's active learning.

Hunkins (1976) stressed the importance of questioning in active learning. He pointed out that student questions guide students to process information and focus attention.

Hunkins did not stand alone in his estimation of the importance of questions. "The function of a question is an incitement to mental activity" (Claparede, 1917, p. 338). "The question is a natural expression of the thinking mind" (Wesley, 1937, p. 52). "A question is the verbalizing of one's recognition that something does not fit one's theory" (Lindfors, 1980, p. 270).

### **Questioning**

Two areas from the literature on questioning are relevant to exploring children's inquiry of text: models and principles of questioning, and the nature of children's questions. The models and principles of questioning represent each author's conceptual framework for questions and questioning. The nature of children's questions refers to the form, function and content of their questions.

### **Models and Principles**

A review of the work of Berlyne and Frommer (1966), Kearsley (1976), Flammer (1981) and Dillon (1986) revealed similarities in their models of questioning. Berlyne and Frommer (1966) concluded that questioning is a search for knowledge, motivated by curiosity, and induced by conceptual conflict that is caused by external stimuli which can exert subjective uncertainty.

Kearsley (1976) proposed that question asking represents the attempt to fill in gaps in a conceptual

model. According to Kearsley, filling in gaps involves specifying concepts and relationships in six reference frames: space, time, properties, causes, procedures, and roles. Kearsley noted that questions reveal how the individual's knowledge system is organized and how it is reorganized as new knowledge is acquired. He suggested that questions reflect change in a conceptual structure.

"Questions provide an indication of how an individual's knowledge or belief system is organized and how it is reorganized as new knowledge is acquired" (p. 373).

Flammer (1981) outlined a framework of knowledge revealed by the question: questioning concerns information that the questioner lacks, presupposes some available knowledge, and indicates that the knowledge sought is related to the knowledge possessed. Flammer viewed question asking as a way of selecting information. He also believed that questions indicate that the questioner needs the information and expresses this need implicitly. He proposed that those who ask questions need the information, that the information can be inferred from other information, that those who ask know who to ask and have lack of confidence in knowing.

Dillon (1986) equated inquiry to questioning. He suggested that questions instantiate attending, thinking, participation, action and express motivation and readiness. Dillon's conceptualization included four principles:

questions indicate the students' present and future knowledge and understanding, the presupposition that precedes the question shows the proposition that the student takes to be true, the second question shows the sequence of inquiry, and each step in the inquiry is based on the student's prior knowledge and understanding and also on how previous understanding was formed. In addition to his principles of questioning, Dillon proposed that questioning activity reveals cognitive, affective and behavioural dispositions of the student: ignorance (realization of not knowing), perplexity (cognitive confusion at not knowing), need to know, desire to know, belief in presupposition of the question, faith (the answer is knowable), courage (willingness to risk), and will (resolve to find out). Dillon submitted that these dispositions were required for inquiry activity to proceed. Dillon stated that the lack of knowledge does not presuppose curiosity. He believed that students must want to know, be bothered by not knowing, feel they should know, and believe it is important to know.

Other researches have contributed to the literature on questioning. Aqvist (1965) referred to the question asker's ignorance (realization of not knowing). He regarded a question as an epistemic imperative, a request to remove ignorance. Wells (1981) stated that questions are an attempt to get someone to do something, to discover if something is the case and to obtain a full representation of

the case. Harrah (1982) proposed that a question expresses concerns and epistemic interests in the matter specified. Research by Miyake and Norman (1979) demonstrated that in order to question it is necessary to have some prior knowledge, and to know something about what is not known.

In summary, then, the review of the literature on the models and principles of questioning indicated that questions represent a search for knowledge. Questions reveal the questioner's past, present and future knowledge. The structure of the questioner's conceptual model in relation to information presented can lead to questions. It is the cognitive and affective state of the potential questioner that leads to questions.

#### Form, Function and Content

Another area of the literature on questioning that bears on an exploration of children's questioning of text is research on the nature of children's questions, more specifically the form, function and content of their questions. In some instances the terms function and content were not used by researchers, in other instances they were not used consistently, or the terms were interpreted differently in various studies. In order to establish consistency among the studies, function was defined as the purpose of the question and content as the subject matter of

the question, and results of the studies were considered in this light.

Piaget (1926) proposed that children's questions reflected the logic of their thinking processes. He analyzed and categorized 1,125 questions of a 6-year-old boy collected over a ten-month period. These questions occurred spontaneously in conversation with his tutor during lessons, games and walks in the garden and were recorded by an observer. Piaget classified the questions according to the "material which is the object of the child's curiosity" (p. 199). He classified the questions as relating to causal explanation, psychological motivation, justification, reality and history, human actions or intentions, rules and usage, and classification and valuation. Piaget noted more why questions of psychological motivation than causal explanation or justification and very little interest in the how of phenomena. He determined that specific interrogatives (how, why, what, when, where) were simple psychological forms of question asking and identified the use of auxiliary forms such as could and does as representing more mature forms. Piaget also observed a change in the child's questions over the ten-month period and attributed this change to cognitive development. Davis (1932) studied children's questions that had been recorded by their mothers inside and outside the home. Davis observed the same content as Piaget in the questions of children aged four to

seven. Perhaps because of the social context of her study, Davis also observed another class of questions. She referred to these as questions concerning social relationships.

Stirling (1937) used stories and pictures with individual children and recorded the content of their questions. Stirling recorded more questions about purpose, times and places and fewer questions of objects with older students.

Using modified fables and pictures as stimuli, Berlyne and Frommer (1966) recorded the questions of children in Grades 1, 3 and 5. They divided the children's questions into two form classes and two content classes. The two form classes were yes/no questions and specific interrogatives. The two content classes were questions about the proposition of an object or event, and questions about the relations between two or more objects or events. Berlyne and Frommer found that few children asked questions about relations. They concluded that this was because of the difficulty of relations questions, which require the formation of an initial hypothesis and then a relationship hypothesis. They also observed that the children in their study asked more specific interrogatives (Where is Mary going?) than questions requiring a yes or no answer (Is Mary going home?). They concluded that yes/no questions require an

initial hypothesis and subsequent action on the initial hypothesis.

Mosher and Hornsby's (1966) work with Grades 1, 3 and 6 and Nelson and Earl's (1973) work with preschool children explored children's questions using a game of 20 questions, with a variety of pictures as the stimulus for questions. In each study the children were tested individually. Both studies explored the pattern of children's questions. The studies determined that greater cognitive demands existed for children asking constraint-seeking questions (general to specific) than hypothesis scanning questions (a series of unrelated specific hypotheses). Few preschool children asked constraint-seeking questions, whereas all Grade 6 children asked at least one constraint-seeking question. Denney (1972) also found that few 6-year-olds ask constraint-seeking questions.

Meyer and Shane (1973) gave children in Grades 1-3, 4-6, 7-9, and 10-12 the opportunity to ask any question they would like. These researchers achieved results similar to Davis (1932) and Piaget (1926), although data collection in each case was different. Meyer and Shane's research occurred with individual children in an experimental setting. Davis and Piaget collected their questions in more naturalistic contexts. Meyer and Shane noticed clear developmental trends. All precausal questions occurred in Grade 1, and these questions all began with why. They also

noted a decline in questions of causality from Grade 1-12 accompanied by an increase in questions of human actions, justifications and social relations over the same grade range. They suggest that this occurs because older children are more concerned than younger children with living in a social world. In addition, Meyer and Shane noted an increase in questions beginning with auxiliary verbs (e.g., is, does, will, and could) from Grade 1-12. These results are similar to those of Davis (1932). An additional finding from Meyer and Shane's study was that the most frequently used interrogatives were how, why and what.

Manzo and Legenza (1975) recorded the questions of kindergarten children in three conditions: free play; show, tell and question; and show and question only. They noted that the context of children's questions strongly influenced questioning patterns, question type and frequency of questions. There were more questions in the free play condition, and a majority of these questions were defined as questions to do with social information and social amenities. On the other hand, all of the questions in the other two contexts were classified as information questions.

Tizard, Hughes, Carmichael and Pinkerton (1983) outfitted their subjects with sleeveless dresses which were fitted with tiny microphones and radio transmitters, and recorded questions of British nursery school girls at home and at school. They concluded that the girls' questions

were prompted by inquiry. They also concluded that a series of related questions represents a process of intellectual search. The finding that these girls asked fewer questions representing related search than unrelated curiosity is the same finding outlined by Mosher and Hornsby (1966), Denney (1972) and Nelson and Earl (1973).

Van Hekken and Roelofsen (1981) videotaped Dutch children from kindergarten and Grades 2, 4 and 6, in pairs playing with toys. They classified their 1,146 questions as knowledge, influence or feedback questions (function) and open or closed questions (form). Van Hekken and Roelofsen observed that children in Grades 2-4 used closed (yes/no) questions frequently and asked more what, where and how than why questions. They also found that 5-year-olds asked virtually no questions about other people's feelings, thoughts and needs. If they asked questions about people, their questions dealt with actions, relations and possessions. The children asked more questions about the physical than social world and more questions about physical facts than explanation and evaluation about such facts.

In summary, these studies of form, function and content of children's questions reflected the use of both positivistic (Mosher & Hornsby, 1966; Berlyne & Frommer, 1966; Meyer & Shane, 1973) and naturalistic (Piaget, 1926; Mishler, 1975; and Tizard et al. 1983) research paradigms. Researchers carried out their research in a range of

settings including play, school, home and nature walks, and they used a variety of materials to stimulate questions – toys, pictures and modified stories. Questions were recorded by observers, audio-tape and video-tape. Table 1 indicates that research explored different aspects of questions and revealed a variety of similar and conflicting results. There was agreement that children of 5, 6 and 7 years of age rarely asked questions indicating organized search, rarely used auxiliary forms with questions, asked more factual than explanation questions, and asked more open than closed questions. There was disagreement as to which questions were asked more – how, why, what, where or when.

#### **The Interactive-Constructive View of Reading**

The literature on the reader-text relationship is another important component in the literature review. Guthrie (1981), Langer and Smith-Burke (1982) and Spiro, Bruce and Brewer (1983) portrayed reading as interactive. Langer (in press), Rumelhart (1980), Spiro (1980), Tierney and Pearson (1986) depicted it as constructive. These authors suggested that readers interact with text and context in order to construct meaning from text. Valencia and Pearson (1987) viewed readers as active learners who use clues from text in concert with prior knowledge, environmental clues and social context to construct meaning.

Table 1.  
Form, Function and Content of Children's Questions

	Form	Function	Content
Piaget	<ul style="list-style-type: none"> <li>• more questions of why, what</li> </ul>		<u>categories</u> <ul style="list-style-type: none"> <li>• causal explanation</li> <li>• reality and history</li> <li>• human action and intentions</li> <li>• more questions of reality and history (facts and events) and causal explanation</li> <li>• classification and valuation</li> <li>• rules and usage</li> </ul>
Davis			<ul style="list-style-type: none"> <li>• same categories as Piaget with addition of social relationships</li> </ul>
Stirling			<ul style="list-style-type: none"> <li>• more questions about names and attributes of objects, fewer about purposes, times and places</li> </ul>
Berlyne & Frommer	<ul style="list-style-type: none"> <li>• more open than closed</li> </ul>		<ul style="list-style-type: none"> <li>• few relationship questions</li> <li>• more questions about objects and events</li> </ul>
Mosher & Hornsby	<ul style="list-style-type: none"> <li>• most questions hypothesis scanning, very few constraint seeking</li> </ul>		
Nelson & Earl	<ul style="list-style-type: none"> <li>• most questions hypothesis scanning, very few constraint seeking</li> </ul>		
Denney	<ul style="list-style-type: none"> <li>• very few constraint seeking</li> </ul>		
Meyer & Shane	<ul style="list-style-type: none"> <li>• more open than closed</li> <li>• little use of auxiliaries</li> <li>• more how, why, what</li> </ul>		<ul style="list-style-type: none"> <li>• many questions of causality</li> <li>• few questions of human actions, justifications and social relations</li> </ul>
Manzo & Legenza			<ul style="list-style-type: none"> <li>• free play – more social questions</li> <li>• show &amp; tell – more information questions</li> </ul>
Tizard et al.	<ul style="list-style-type: none"> <li>• few questions of related curiosity</li> <li>• most questions of unrelated curiosity</li> <li>• few why questions</li> </ul>	<u>categories</u> <ul style="list-style-type: none"> <li>• non-specific – explanation, prediction, generalization</li> <li>• fewer non-specific questions</li> </ul>	<u>categories</u> <ul style="list-style-type: none"> <li>• specific – object, person, event</li> <li>• more specific questions</li> </ul>
van Hekken & Roelofsen	<ul style="list-style-type: none"> <li>• closed questions increase with age</li> <li>• more what, where, how</li> </ul>	<ul style="list-style-type: none"> <li>• more questions to influence addressee than obtain information</li> </ul>	<ul style="list-style-type: none"> <li>• more questions about physical than social world</li> <li>• more questions about physical facts than explanations and evaluation of facts</li> <li>• if people questions, then about actions, relations, possessions, rather than about feelings, thoughts and needs</li> </ul>

### The Interaction

Reader-response theorists hypothesized that there must be an interchange between reader and author for readers to understand text. Hunsberger (1985), Iser (1978) and Rosenblatt (1981, 1985) described this interchange as transactive, a term used by Dewey and Bentley (1949) in Knowing and the Known. Transactional theory acknowledges the contribution of both reader and text to the reading event. The theory suggests that each participant (text, reader) changes as a result of the transaction. The reader's schemata change as a result of the assimilation and accommodation of new knowledge. The text offers guidance and direction but is finally shaped by the reader who gives substance to the symbols on the page. Consequently there is no single interpretation of the text. The interpretation changes for specific readers at specific times. The guidance the text offers is referred to as clues which the reader uses to construct meaning. The text is also seen to contain gaps or blanks which invite the reader to interact, dialogue with and question text. It is not simply the text, it is the textual cues and gaps that prompt the reader to interact with text.

### Prior Knowledge

Another theme in the literature on the reader text relationship was the role of prior knowledge in the interaction. Bartlett (1932) stressed that comprehension is

"an effort after meaning" (p. 277). He described it as an effort to "connect something that is given with something other than itself" (p. 277). Smith (1975) suggested that the meaning readers construct from text is always relative to what they already know and what they want to know. Anderson (1984) proposed that as a reader reads, meaning is developed based on the reader's analysis of text and the hypotheses in the reader's mind.

Researchers who theorized that reading is interactive posited that both text and reader contribute to the construction of meaning. Research by Beaugrande (1981), Cirillo (1981), Thorndyke (1976), and Waters (1981) supported this view. Their research revealed that readers interpret the same text differently depending on their backgrounds, knowledge and experiences.

Bransford, Franks, Morris and Stein (1979), Craik and Lockhart (1972), Graesser, Robertson, Lovelace and Swinehart (1980), and Miyake and Norman (1979) studied sources readers use to answer questions about text. They demonstrated that readers rely on their own knowledge as well as information from text in order to comprehend and construct meaning from text. Rosenblatt (1981), Rumelhart (1980) and Valencia and Pearson (1987) also pointed out the important role of prior knowledge as the reader attempts to construct knowledge from text. Adams and Bruce (1982) and Watson (1985) suggested that prior knowledge could be conceptual, structural or

social knowledge. Pearson, Hansen and Gordon (1979) proposed that one function of prior knowledge was to fill in the gaps in text.

### Context

The third focus of the literature on the interactive-constructive view of reading was the context in which the reading occurred. Langer and Smith-Burke (1982) viewed reading as a process involving reader, text and context. Because of this interaction they regarded interpretation as idiosyncratic, based on variation in those three factors. Therefore, the interaction and subsequent inquiries vary. Spiro (1980) regarded meaning as the product of an interaction between the text and context. He regarded context as the discourse in which the message is embedded, the task requirements, the situation, and the interest, attitude and prior knowledge of the reader. Rosenblatt (1985) stated that because reading is an event in time, the context in which the reading takes place has to be considered. Hunsberger (1985), Shanklin and Rhodes (1989), and Tierney and Pearson (1986) identified the teacher as a part of the context. They argued that the teacher's role is to facilitate the dialogue between the students and the text, encourage questions, monitor turn-taking and help the students to construct meaning.

### Constructing Meaning

The constructivist framework implies that meaning grows and changes as reading progresses (Langer, 1985). Bransford and Johnson (1973), Collins, Brown and Larkin (1980), Spiro (1980) and Voss, Vesonder and Spillich (1980) demonstrated that local and global comprehension changes in relation to knowledge that readers have at different points during the reading event. Fish (1970) referred to this change as a wandering viewpoint; Langer (1985) as a developing envisionment; and Rosenblatt (1985) as evocation. In each case these theorists regarded the meaning constructed by readers as being continually recreated as they proceed through the text. The construction of meaning is viewed as a process rather than as an end product. The process is influenced by information derived from text, context and the reader's prior knowledge.

A feature of the literature on the interactive-constructive view of reading that provided an obvious connection to questioning was the importance that Dillon (1986), Hunsberger (1985), Meyer (1983), Smith (1975, 1982), Stauffer (1980), and Valencia and Pearson (1987) placed on the role of questioning in constructing meaning from text. Smith defined comprehension as having one's cognitive questions answered. He suggested that the twin foundations of reading were to be able to ask specific questions about letters, words or meanings, and to know how and where to

locate the answer from text, prior knowledge or context. Smith indicated that most questions were implicit rather than explicit. In addition he appeared to use the terms prediction and question interchangeably.

### Listening, Viewing and Constructing Meaning

Two issues in the reader-text relationship that needed to be considered in light of the design of this study were the role of the listener in the interaction between reader, text and context and the role of illustrations as readers construct meaning from text. Smith (1982) stated that there is nothing that the brain does to make sense of language that is written that it does not do to make sense of language that is spoken. Green and Harker (1982) also regarded story reading for children as an interactive communicative act between reader, text and listener. Castle's (1986) research with illustrations in text suggested that illustrations also help readers link the known and the unknown. Castle indicated that illustrations also contribute to the construction of meaning, and viewers interact with them as they do with words. Castle found it difficult to determine if the illustrations stimulated an interpretation as verbal meaning or if print stimulated the construction of visual meaning.

The interactive view characterizes reading as a dynamic interaction between the reader's prior knowledge, the text (with its gaps and clues as perceived by the reader), and

context (aspects of the environment and the interest and attitude of the reader). The constructive view holds that the focus of this interaction is the construction of meaning. The construction of meaning is regarded as a process which evolves as the reading progresses.

The question arises as to whether or not previously outlined models and principles of questioning complement this dynamic interaction between reader and text, the role of context in the interaction, the construction of meaning, the concept of gaps and clues in text and the role of questioning in constructing meaning? Table 2 indicates the parallels that emerge when the principles of the interactive-constructive view of reading and the summary of the models and principles of questioning are compared. Questioning and reading appear to be compatible, complementary and very similar in underlying precepts.

### **Inquiry**

The review of the literature on research in inquiry revealed that research had focused on question asking (Berlyne & Frommer, 1966) and the process of inquiry (Allender, 1969; Berlyne & Frommer, 1966; Shulman, 1965). Bruner (1961) proposed four principles of inquiry. He stated that in order to inquire, the inquirer must believe there is something to find out, be aroused to find it, devise ways to find out, and be persistent in the inquiry. These principles of inquiry parallel the dispositions

Table 2.

A Comparison of the Principles of Reading and Questioning.

Reading	Questioning
is an interaction between the reader's prior knowledge and perceived gaps and clues in text.	results from the relationship between the questioner's conceptual model and information presented.
involves the reader's prior knowledge, the context, and the interest and attitude of the reader	is an outcome of the cognitive and affective state of the potential questioner.
is a construction of meaning.	represents a search for knowledge.
is a process of constructing meaning that is in flux and evolving.	reveals the questioner's past, present and future knowledge.

required for questioning suggested by Dillon (1986) and characteristics of questioners outlined by Flammer (1981). They focus on the pursuit of knowledge, a felt lack of knowledge, the need to know and an approach to obtaining knowledge.

Shulman (1965) and Allender (1969) investigated the inquiry process. Shulman used an open-ended inquiry task and identified problem sensing, problem formulation, search behaviour and time as aspects of inquiry. He also indicated that personality and motivation influence patterns of inquiry behaviour. Allender used an activity called the Mayor's Game in which a child assumed the role of mayor of a small city and dealt with the problems, information and decisions of a mayor. Allender identified features of

inquiry that were the same as those identified by Shulman. Allender also concluded that good inquiry required openness and flexibility. He noted that children inquired when given the opportunity to do so, that question asking was a part of problem formulation, and that there was variability in students' inquiry styles.

Berlyne and Frommer's (1966) research focused on questioning, as well as on features of inquiry. They used pictures and short manipulated fables and asked children what they wanted to know. The results of their studies revealed aspects of the initial stages of inquiry. Berlyne and Frommer identified novelty, surprisingness, incongruity, amount of information and uncertainty as features that stimulated question asking (one of the initial stages of inquiry). They referred to question asking as a form of epistemic behaviour (search for knowledge). They proposed that questioning is motivated by epistemic curiosity (condition of arousal) which is induced by conceptual conflict caused by external stimuli such as novelty, surprisingness, incongruity, amount of information and uncertainty.

The similarity between propositions of Bruner, Allender, Shulman and Berlyne and Frommer was evident. These researchers proposed an initial state of uncertainty which arises in the inquirer as a result of an interaction with a situation. In addition they stressed the aspect of

arousal or motivation to go beyond the uncertainty to formulate a question and search for answers.

### **Curiosity**

Research on curiosity also contributed to the theoretical framework for this study. Krietler, Zigler and Kreidler (1975), Henderson and Moore (1979) and Vandenburg (1984) investigated curiosity and exploration using concrete objects. All three research projects led to the conclusion that curiosity is a multi-faceted construct. Krietler, Zigler and Kreidler identified manipulative curiosity, perceptual curiosity and preference for perplexity as dimensions of curiosity. Henderson and Moore, and Vandenburg identified breadth and depth of exploration, preference for novelty and the unknown and use of question strategies as features of exploration. Henderson and Moore suggested that there are different types of curiosity in children and these involve: the mode of response, the style of exploration and the elicitors of exploration behaviour. They also concluded that curiosity can be so pervasive in an individual as to be regarded as a trait, or it can be related to only certain stimuli. Using a battery of tests, Langevin (1971) identified breadth and depth of interest as characteristics that motivated curiosity. He also stated that curiosity is not a unitary construct. All of these researchers pointed out the existence of a range of individual differences in what it is that stimulates

curiosity and a range of differences in individual styles of curiosity behaviour.

Table 3 indicates the similarities between conceptions of questioning, curiosity and inquiry. The principles of questioning outlined by Berlyne and Frommer (1966), Dillon (1986), Flammer (1981) and Kearsley (1976), parallel the principles and processes of inquiry outlined by Allender (1969), Berlyne and Frommer (1966), Bruner (1961) and Shulman (1965), and features of curiosity presented by Henderson & Moore (1979), Kreidler, Zigler & Kreidler (1975), Langevin (1971) and Vandenburg (1984). All three processes are characterized as a search for knowledge or answers. All three involve a sense of uncertainty, a cognitive and affective response to the uncertainty and attempts to resolve the uncertainty.

### **A Conceptual Framework**

The interactive-constructive view of reading hypothesizes that the reader constructs meaning based on the interaction between the gaps and clues in the text, the context (external stimuli) and the reader's prior knowledge. But why do these gaps and clues facilitate the reader's interaction with text? Researchers suggest it is a result of conceptual conflict (Berlyne & Frommer, 1966) of ignorance and perplexity at not knowing (Dillon, 1986), of believing there is something to find out (Bruner, 1961), of being sensitive to the fact that a problem exists (Allender,

Table 3.

A Comparison of Questioning, Inquiry and Curiosity

Questioning	Inquiry	Curiosity
<ul style="list-style-type: none"> <li>• results from the relationship between the reader's prior knowledge and perceived gaps in text</li> </ul>	<ul style="list-style-type: none"> <li>• conceptual conflict caused by external stimuli (Berlyne &amp; Frommer)</li> <li>• must believe there is something to find out (Bruner)</li> <li>• begins with problem sensing (Allender; Shulman)</li> </ul>	<ul style="list-style-type: none"> <li>• preference for novelty and the unknown (Henderson &amp; Moore; Vandenburg)</li> <li>• preference for perplexity (Kreitler, Zigler &amp; Kreitler)</li> </ul>
<ul style="list-style-type: none"> <li>• is an outcome of the cognitive and affective state of the potential questioner</li> </ul>	<ul style="list-style-type: none"> <li>• epistemic curiosity-conditions of arousal (Berlyne &amp; Frommer)</li> <li>• must be aroused to find out and be persistent in the inquiry (Bruner)</li> <li>• influenced by personality and motivation, requires openness and flexibility</li> <li>• leads to formation of a problem (Allender; Shulman)</li> </ul>	<ul style="list-style-type: none"> <li>• stimulated by breadth and depth of interest (Langevin)</li> </ul>
<ul style="list-style-type: none"> <li>• represents a search for knowledge</li> </ul>	<ul style="list-style-type: none"> <li>• a search for answers, resolve incongruity (Shulman)</li> </ul>	<ul style="list-style-type: none"> <li>• breadth and depth of exploration (Henderson &amp; Moore; Vandenburg)</li> <li>• use of questioning strategies (Henderson &amp; Moore; Vandenburg)</li> <li>• manipulative curiosity, perceptual curiosity (Kreitler, Zigler &amp; Kreitler)</li> </ul>
<ul style="list-style-type: none"> <li>• reveals the questioner's past, present and future knowledge</li> </ul>		

1969; Shulman, 1965), and a realization of gaps in a cognitive model (Kearsley, 1976). Dillon states that simply not having knowledge does not presuppose curiosity. There must be epistemic curiosity, a condition of arousal (Berlyne & Frommer, 1966), a need and desire to know (Dillon, 1986),

and a preference for the unknown and perplexity (Henderson & Moore, 1979; Kreidler, Zigler & Kreidler, 1975). The reader must want to know, be bothered by not knowing and feel s/he should know (Dillon, 1986). This desire to know is then reflected in some form of epistemic behaviour (Berlyne & Frommer, 1966). Just as each interpretation of text differs based on the unique interaction among reader, text and context, so will the inquiry of text differ based on the stimulus that elicits the inquiry (Berlyne & Frommer, 1966; Kreidler, Zigler & Kreidler, 1975), the nature of the inquiry (Henderson & Moore, 1979) and inquiry style (Allender, 1969).

The conceptual framework for this study was based on a synthesis of concepts from four topics: questioning, reading, inquiry and curiosity. The following points are the basis of the conceptual framework:

1. Inquiry of narrative text was viewed as a search for or construction of knowledge or meaning from narrative text.
2. Inquiry of narrative text was understood to represent a dynamic interaction between a child's conceptual model and knowledge and ideas from the text and the context.
3. Inquiry of narrative text was believed to occur if a child felt the need to reduce a sense of uncertainty resulting from conceptual conflict

that arose from perceived gaps between the child's conceptual model and knowledge and ideas from the text and context.

4. This same interaction was also assumed to provide cues that could reduce or resolve conceptual conflict.
5. Inquiry of narrative text was expected to differ based on differences in reader, text, context, cognitive and affective response to conceptual conflict, differences in what stimulates inquiry and differences in personal inquiry style.

Inquiry of narrative text can be overt or covert, and although this study focused on observable features of inquiry activity, it was not assumed that because children did not reveal overt inquiry activity they were not engaging in inquiry. The interaction for Yellow and Pink provides a sample for considering the reasonableness of the framework.

1. Does the interaction represent a search for and construction of knowledge?

*"They look like robots," said Ryan.*

*David shook his head and looked at Ryan. "They aren't. They're people."*

*"Goodness! Does this look like it's going to be a happy story?"*

*Elizabeth sounded worried. "No."*

*"It's hard to know," said Jodie.*

Brad's eyes opened wider. "It looks like it's going to be a sad story."

"It looks like it's going to . . ." began Ryan. Then he looked at Brad. "Yeah, that's what I was going to say."

"Two small figures made out of wood were lying out in the sun one day on an old newspaper," read Jodie. "One was short, fat and painted pink; the other was straight, thin and painted yellow."

"Hello man," said David, as though he were one of the characters speaking.

Jodie continued. "It was hot and quiet and they were both wondering."

"Wondering what?" asked David.

Jodie brought the book down in front of her and looked at the children. "That's kind of a mystery."

"Someone made them and put them on there," said Ryan.

David and Ryan were constructing knowledge about the nature of the characters. Ryan compared Yellow and Pink with his conceptual model of robots. David compared them to his model for people. Elizabeth, Brad and Ryan were deciding what kind of story it was going to be. They inferred from the illustration that it was going to be a sad story. David was reflecting on the physical and cognitive actions of the characters. Ryan was constructing knowledge about how the characters came to be where they were. He hypothesized that someone had made Yellow and Pink and put them on there.

2. Does the interaction represent a dynamic interaction between a child's conceptual model and the knowledge and ideas from text and context?

*"They look like robots," said Ryan.  
David shook his head and looked at Ryan. "They aren't. They're people."*

*Brad's eyes opened wider. "It looks like it's going to be a sad story."*

*"After a while, the yellow one sat up and focused his gimlet eyes on the pink one. 'Do I know you?' he asked. 'I don't think so,' Pink answered. 'Do you happen to know what we're doing here?' asked Yellow. 'No,' said Pink. 'I don't even remember getting here.'"*

*Jodie brought the book down in front of her and looked at the children. "That's kind of a mystery."  
"Someone made them and put them on there," said Ryan.*

Ryan decided that the characters in the illustration fit his conceptual model for robots. David's conceptual model (schema) for robots was different from Ryan's, and these characters were more similar to his model for people. Brad had a model for sad stories and the legs lying on the grass fit that model. Ryan had earlier suggested that these characters were robots. He may have decided that, if this was the case, they could not have ended up on the newspaper by themselves.

3. Does the interaction provide evidence that inquiry of narrative text occurs when a child feels the need to reduce a sense of uncertainty resulting from conceptual conflict that arises from perceived gaps between the child's conceptual model and knowledge and ideas from the text and context?

*"They look like robots," said Ryan.*

*David shook his head and looked at Ryan. "They aren't. They're people."*

*Jodie continued. "It was hot and quiet and they were both wondering."*

*"Wondering what?" asked David.*

*"Someone made them and put them on there," said Ryan.*

*Jodie looked at Ryan. "I wonder if that's what happened?"*

*"How do you know?" said David turning to Ryan.*

There was a conflict between Ryan and David's concept of robots. David revealed this conflict and his resolution – "They aren't robots. They're people. David asked a very profound question – "Wondering what?" He acknowledged the gap existing in the text and in his conceptual model. He was thinking about someone else's thinking. He then questioned Ryan's thinking – "How do you know?" He wanted Ryan to justify how he had reached a specific conclusion.

4. Does the reader-text-context interaction provide cues that can reduce or resolve conceptual conflict?

*Jodie pointed to the two figures on the front cover. "Interesting. And look at how they've drawn the figures here with pencil and pen."*

*"They look like robots," said Ryan.*

*David shook his head and looked at Ryan. "They aren't. They're people."*

*"Goodness! Does this look like it's going to be a happy story?"*

*Elizabeth sounded worried. "No."*

*"It's hard to know," said Jodie.*

*Brad's eyes opened wider. "It looks like it's going to be a sad story."*

Ryan's cues were contained in the illustrations. The characters looked stiff and wooden. David's cues also came from the illustration and they could also have come from Ryan. Ryan's statement may have helped David eliminate one possibility from his conceptual model.

5. Does children's inquiry of narrative text differ based on differences in reader, text, context, cognitive and affective response to conceptual conflict, differences in what stimulates inquiry and differences in personal inquiry style?

It is very difficult to base a consideration of differences on such a small sample of statements, but several points are noteworthy. Of the ten children only Brad, Ryan, David and Elizabeth had been overtly involved in

inquiry of narrative text at this point. Although it is impossible to claim that the other children were not involved in inquiry of narrative text, if they were their styles of inquiry were covert. In addition some children dialogue with the text, some with other children and some with the teacher. Some children inquire about the characters, some about actions and some about the nature of the story.

### Summary

The conceptual framework for this study is grounded in the literature on questioning, reading, inquiry and curiosity. The framework represents inquiry in the language arts as an idiosyncratic, interactive, constructive process involving a child, a text and a context, in which the child seeks to reduce conceptual conflict. Based on the application of the framework to Yellow and Pink, it appears to be applicable to this study of children's inquiry of narrative text. Although Yellow and Pink provides a limited number of examples for examining the reasonableness of the conceptual framework, its reasonableness when applied to the total data was consistently demonstrated.

### CHAPTER 3

#### METHODOLOGY

This chapter contains two portions of the narrative for Yellow and Pink, one to introduce the chapter and one included with data analysis. The chapter begins with the methodological assumptions, a description of the subjects, the data collection procedures for each question, and an outline of the three phases of the study.

Data analysis begins with another excerpt from Yellow and Pink, the transcription conventions, and a description of analysis procedures for the three types of data used in the study. A framework for inquiry in the language arts is presented, and the categories, classes and codes that emerged from the data are outlined. Examples from Yellow and Pink are used as illustrations of the categories, classes and codes. Procedures for checking the validity of the transcripts and the coding conclude the chapter.

#### *Yellow and Pink*

*Jodie turned the page. David continued to wiggle. He tucked his hands under his armpits and began flapping his arms. During this unconventional behaviour his eyes remained fastened squarely on the book or on Jodie. Jean returned from the bicycle rodeo.*

*Jodie continued the story. "'Me neither,' said Yellow, looking all around. There were chickens busy pecking a little way off, and farther back in the field some dreamy cows. 'I can't help wondering,' he went*

on, 'how we got to be here. It all seems new and strange. Who are we?'"

"I know who they are," said Elizabeth.

"Fink looked over," Jodie continued. "He found Yellow's colour, his well-chiselled head, his whole form, admirable. 'Someone must have made us,' he said."

Jodie read with a great deal of expression. She had a different voice for each of the characters. The expression on her face changed along with her change in voice. She looked at the book and then the children and then her eyes returned to the book.

"'How could anyone make something like me, so intricate, so perfect?' Yellow asked. 'Or for that matter, like you. And wouldn't we know who made us since we had to be there when we got made?'"

"No," said David as he shook his head.

Jodie's voice changed again. "'And why,' Yellow added, 'would he leave us like this - with no explanation. I say we're an accident. Somehow or other we just happened.' Pink couldn't believe what he heard: he started laughing. 'You mean these arms I can move this way and that, this head I can turn in any direction, this breathing nose, these walking feet, all of this just happened by some kind of fluke? That's preposterous!'"

"Deposterous?" said Brad in a very loud voice. He had a puzzled look on his face.

Jodie smiled. "Isn't that an interesting word."

David turned to Brad. "Don't you know what it is, Brad?"

Mark responded to Jodie, unaware of the conversation going on between Brad and David. "Yeah," he said.

David continued to talk to Brad. "I do," he said, in a very matter of fact tone.

Jodie repeated the word, "Preposterous."

Suddenly Brad sat straight up. A smile came over his face. The puzzled look disappeared. He spoke quickly. "It's them. They mean themselves."

Jodie turned the page. A strange illustration representing Yellow's fantasizing covered both pages. "Oh oh! Look at this."

The children looked intently at the picture as Jodie read, "'Don't laugh,' said Yellow. 'Just stop and reflect. With enough time, a thousand, a million, maybe two and a half million years, lots of unusual things could happen. Why not us?'"

Brad laughed. "That was funny."

Ryan smiled. "A guitar with legs."

"Look at this," said Jodie, holding the book in front of her and pointing to the picture. "This is sort of half a musical instrument and half eggs, legs. Yeah."

"And a space ship tree. A building I mean," said Ryan.

Brad giggled. "We have funny buildings up there."

Jodie pointed to another part of the illustration. "Look at this tree with heads on the end."

The children leaned forward in order to get a better look.

Ryan had a big smile on his face. "Oh. And look at that building!"

Brad's surprise was evident in his voice. "Look at the sun!"

Everyone laughed. "Oh no!"

Ryan was still examining the strange sun, "shaped like a wire, like a telephone wire."

"Kind of looks shaped like that, the circle on that, like a circle," said Elizabeth.

Once again Jodie held the book up to her side and began to read with expression. "'Because it's impossible! It's absolutely out of the question! How could we just happen? Would you mind explaining?'" As she turned the page she looked at the children.

Returning to the page she again began to read. The children listened quietly. Jodie's reading brought the characters to life. "Yellow got up and began pacing. He kicked a pebble aside. 'Well it could be something like this, I'm not saying exactly. Suppose a branch broke off a tree and fell on a sharp rock in just the right way, so that one end split open and made legs. So there you have legs.'"

### **Methodological Assumptions**

The following methodological assumptions formed a basis for this study. They are assumptions related to research design, ethics, reliability and validity, setting, data collection, data analysis and reporting the study.

1. The designs of naturalistic studies are flexible and proceed based on circumstances and events

(Lincoln & Guba, 1985; Marshall & Rossman, 1989; Yin, 1989). Changes and reasons for them should be documented (Guba, 1986).

2. Those studied need to be as informed as possible of the research, give informed consent to participate in the research, be protected from risks, and afforded the right to privacy (Erickson, 1986; Lincoln & Guba, 1985; Merriam, 1988; Patton, 1990). In the case of young children, informed consent should be obtained from the parents.
3. Long-term and repeated observations of the same phenomena contribute to reliability and validity of the study (Lincoln & Guba, 1985; Marshall & Rossman, 1989; Merriam, 1988).
4. Because a phenomenon is influenced by the context in which it occurs, it is important to study the phenomena in natural contexts (Harste, Burke & Woodward, 1983; Kalnins, 1986; Lincoln & Guba, 1985; Ochs & Schieffelin, 1983; Wilson, 1977). It is also important that techniques for recording data be as unobtrusive as possible (Marshall & Rossman, 1989).

5. Data collection should be related to the type of information sought (Marshall & Rossman, 1989). Audio-taping is useful for the study of complex situations (Dobbert, 1982), is useful for the researcher and others in reproducing and reviewing data (Dobbert, 1982; Lincoln & Guba, 1985), allows comparison with other speech acts (Ochs & Schieffelin, 1983), and is important for recording inflections and tones of voice (Dobbert, 1982). Field notes provide non-verbal data that contribute to the interpretation of verbal data (Dobbert, 1982) and provide researchers with a method for recording non-verbal behaviours.
6. Verbal interactions and non-verbal behaviours are relevant data for determining meaning (Wilson, 1977) and inferring hypothetical constructions (Johnston, 1986). The categories used to analyze the data are derived from the data themselves (Harste, Burke & Woodward, 1983). The addition of quantitative analyses can add to the understanding derived from the data (Fielding & Fielding, 1986; Marshall & Rossman, 1989; Miles & Huberman, 1984).
7. A representative sampling of raw data should be included in the report of the study (Le Compte & Goetz, 1982).

## Design

### Subjects

The research was a case study of inquiry of narrative text. The subjects of the study were six Grade 1 children from a K-1 class of 10 Kindergarten and 10 Grade 1 children. The subjects were collaboratively selected by the teacher and the researcher. The sample for the study was purposive. The subjects were three males and three females. There were two children of high, two children of average and two children of below average language ability, as judged by the classroom teacher. The teacher used products from writer's workshop, responses given during conferencing, and ability to use language appropriately in a variety of large and small group settings to determine ability levels. As data analysis began, it became evident that because of the student-to-student dialogue in the C/T context, it was desirable to consider the entire group of 10 children as the subjects in that context.

Permission to carry out the study was obtained from the school principal and the district superintendent. When the principal left the school and was replaced by the vice-principal, he also expressed his support for the study.

Consent forms were obtained from the parents of the Grade 1 children, the Grade 7 students and their parents, and the grandparent helper. In any records of the research

the names of the Grade 1 students, Grade 7 students, and the grandmother helper were changed to ensure their anonymity. The teacher's name was not changed.

### Data Collection

During the study the researcher was a participant observer in the classroom in the morning, one to three days a week, for 12 weeks. When she was not recording and observing the children in one of the five contexts, she served as a teacher helper, helped the children with their work, helped them to make cupcakes, talked to them, listened to them read and generally became a regular participant in classroom activities.

The following outline describes data collection procedures for each research question.

1. If the teacher instructs students in text inquiry and creates conditions that encourage text inquiry, will subjects across ability levels inquire about text in five contexts?
2. If the subjects engage in inquiry of narrative text, what will be the nature of the inquiry?

Question one focused on the children and the teacher and this was reflected in the data collection procedures. Data collected to answer question one were also used to answer question two.

### Contexts

Data were collected on all ten of the children in the C/T context and on the original six children in the other four contexts. Data were collected in all contexts by audio-tape and observation. Field notes of observations included the seating arrangement, appearance and actions of participants, time of day, other events happening inside and outside the room, personal comments and reflections. Whenever possible data were collected only once per week in all contexts other than the C/T context, and in only one context other than the C/T context on any one day. Dates and times of data collection in each context are listed in Appendix B. Dates and times of data collection for the C/T context are listed in Appendix C. Data collection procedures for each context follow.

C/T – the Grade 1 children were read to by the classroom teacher

Whenever the teacher read to the Grade 1 children in the morning between the end of March and the end of June, the researcher recorded and made field notes of the interactions which occurred. Before the study began Jodie audio-taped her regular story reading to the Grade 1 students in order to familiarize them with the presence of the cassette recorder in the C/T setting. When Jodie read to the children she sat in the rocking chair in the carpeted

area of the classroom. The children sat in two semi-circles at her feet. A compact cassette recorder was located on a low stool to Jodie's right. The researcher sat at a table at the side of the group in order to observe Jodie and the children.

S/S – subjects, in pairs, read the products from writer's workshop to each other

All of the children sat wherever they chose during the writer's workshop. As the six children completed their writing they located their partners, and each pair went to the large sharing table to read their stories to each other. A compact cassette recorder was located on the table. One of the children turned the recorder on when they began and off when they finished. The researcher sat at another table and made field notes.

S/B – subjects were read to by Grade 7 student buddies

All of the Kindergarten and Grade 1 children were read to once a week by Grade 7 students. Books from the classroom library were selected by the younger children. One half of the children stayed in the K-1 classroom and the other children went to the Grade 7 classroom. All subjects and the Grade 7 students reading to them were part of the

group in the Grade 7 room. The children chose where to sit and the researcher positioned herself so as to have a clear view of the six subjects. The Grade 7 students wore compact cassette recorders, in portable cassette carriers strapped around their waists. The recorders were equipped with built-in microphones.

S/A - subjects were read to by an adult volunteer

Each subject was read to individually by Mrs. Chambers, a grandmother who volunteered in the classroom. Mrs. Chambers sat at a large table at the back of the room and the subject sat beside her. A compact cassette recorder was on the table as the story was read. Mrs. Chambers greeted each child, read the story with no comments, and paused briefly at the end of each page. At the end of the story she usually asked if the children liked the story and thanked them. The researcher sat in a position where she could clearly see the subject and hear the story being read. Regular classroom activities proceeded as usual during the story readings.

S - subjects read to themselves

The children were accustomed to returning from recess, choosing several books from their classroom library and finding a place to read quietly to themselves for

approximately ten minutes. In all instances the children read aloud rather than silently. This procedure was continued during the study, except that once a week the six subjects wore the cassette recorder strapped around their waists as they read. The researcher positioned herself so as to have a clear view of all six subjects.

### Phases

The study was divided into three phases: baseline, intervention and retention. This design was selected in order to identify if the children inquired about narrative text at the beginning of the study and to determine if the teacher's subsequent use of an intervention designed to encourage inquiry had any effect on the children's inquiry activity.

Baseline phase. The first four weeks of the study were used to gather baseline data about the children's inquiry of narrative text. The teacher proceeded as usual with her story reading, the sessions were audio-taped, and the researcher made field notes of the sessions. Similar data were collected in the four other contexts and the four contexts also proceeded as usual.

- S/S - the subjects in pairs read the products from writers workshop to each other
- S/B - the subjects were read to by Grade 7 student buddies

S/A - the subjects were individually read to by an adult volunteer

S - each of the subjects read to him/herself during uninterrupted, sustained, silent reading (U.S.S.R.)

Intervention phase. After baseline data had been gathered, the second phase of the study was to begin. It was to take nine weeks and directly follow the first phase of the study. The teacher was to begin the intervention phase by introducing interrogating text to the Grade 1 students when she read to them (C/T context). Interrogating text is an instructional strategy that is designed to teach and encourage a curious, questioning attitude toward text and create conditions that encourage questioning of text.

In interrogating text the teacher informs the students that she wants them to ask questions of text - questions she will not answer but may be answered by the text and if not will be discussed at the end of the story. The teacher then presents a limited portion of the text to the students (cover, title page). The teacher reads the title and asks the children if the title or the picture makes them want to know something. If the children do not raise any inquiries the teacher teaches the children to interrogate the text by suggesting things that the children may want to know. She focuses on the text, not the students and says, "You might say 'I wonder who Barnabas is? Where are the children going?'" She then solicits any additional questions. The

teacher points out that she will read the page to them and they will see if their questions are answered. At the end of the page(s) the teacher comments on answers given by the text and asks the children if they have any more questions. She then proceeds to the next page, solicits inquiries from the children and proceeds as before. Gradually the teacher eliminates suggested inquiries but continues to invite the children's questions. The teacher proceeds through the text in this way.

The intervention (present text, invite questions, model questions explicitly, read, confirm answers contained within the text) was to occur for the first six weeks of phase two. Modelling of questions was to be eliminated from the intervention for the final three weeks of phase two, but otherwise the intervention was to proceed as before.

The intervention phase changed in several ways. First, it was reduced to eight weeks. Second, the strategy of interrogating text was modified in the C/T context. The teacher implicitly modelled indirect interrogatives.

I was never afraid of anything when we lived in the city but now we live on a farm.	text
---	------

Hmm. I wonder why that should make a difference?	Jodie
---	-------

The teacher modelled indirect interrogatives for five weeks an average of four times in each of 12 stories. No

interrogatives were modelled during the last three weeks of the intervention phase. In the second week of the intervention phase the children were invited to interrogate text. The invitation was phrased in two ways: "Does anyone have any questions?" "Does anyone have any 'I wonders'?" When after two stories, "Does anyone have any questions?" did not produce any questions, the second invitation was used for the remainder of the intervention phase.

Third, the intervention was not applied consistently during the intervention phase. The invitation to question text was not initiated at the beginning of the intervention phase and did not occur in each story after it was initiated. Consequently it became impossible to identify portions of the study as the baseline or the intervention phase. During this time the other four contexts proceeded as they did in the first four weeks of the study with the addition of a three-second pause at the end of each page in the contexts in which a Grade 7 student or adult read to the Grade 1 student. This was to allow the subjects to inquire about text without interrupting.

**Retention phase.** The third phase of the study was designed to determine if and how students independently inquired about text and if the students' text inquiry reflected the teacher's modeling of text inquiry. A think aloud strategy was used to elicit students' text inquiry. A

think aloud strategy requires students to pause at the end of each sentence of text and tell the researcher what they were thinking as the text was read to them.

A think aloud strategy was used for the retention phase of the study. In order to minimize cueing for responses, the procedure was conducted by the researcher who had not previously been involved in reading to the students. It was conducted in an area separate from the other students, and was carried out using a story not previously read to the students. The think aloud strategy is used to elicit readers' analysis of what they are doing as they read (Alvermann, 1984; Hare & Smith, 1982; Olshavsky, 1976-1977; Scardamalia & Bereiter, 1983). For this study the researcher read to each child individually, stopped at the end of each page and waited for the child to indicate what he/she was thinking as the story was read.

Before the students took part in the strategy the researcher conducted an individual training session with each child. During the training session the researcher instructed the student to "tell your thinking." The researcher modelled the process and used a scaffolding approach. The researcher drew and coloured a rainbow and verbalized her thinking as she did so. She invited the child to join in with both the drawing and verbalizing. Gradually the researcher reduced and ultimately withdrew her

involvement. After the child completed the picture he/she was invited to do the same verbalizing with a story that the researcher read.

The actual think aloud procedure was carried out the day after the training session, in a small room near the classroom. The student and researcher sat side by side at a small table with the book between them. A compact cassette recorder was on the table behind the book. The procedure was carried out with each child individually from 9:00 to 10:40. Each think aloud session took approximately 12 minutes. During each think aloud procedure, the other children were in their classroom working in their math workbooks. There was a substitute teacher in the classroom.

Data regarding the teacher's role in the children's inquiry in the C/T context were obtained from field notes and audio-tapes collected in the C/T context. In order to provide another data source the researcher conducted three semi-structured interviews with the classroom teacher to obtain the teacher's perspective on such questions as how she shared text with her students, her understanding of how students create meaning from text, the role of teacher and student in interacting with text and her feelings about the approach she was using. There were three interviews: at the end of four weeks, after nine weeks, and at the end of

the study. The interview scripts are located in Appendix D, E, and F.

### Data Analysis

#### **Yellow and Pink**

The children looked carefully at the picture as Jodie read. "'Then winter came and this piece of wood froze and the ice split the mouth open. There's your mouth. Then maybe one day a big hurricane took that piece of wood and sent it tumbling down a rocky hill with little bushes and it got bumped and chipped and brushed this way and that. Sand blowing in the wind might have helped with the smoothing.

"Nah! It didn't happen," said David in a very matter of fact voice.

Jean agreed, "No."

"That didn't happen," said Brad emphatically.

Jodie turned the page and continued to read.

"That piece of wood could have hung around at the bottom of that hill for eons, until one day - Zing! - lightning struck in such a way as to make arms, fingers, toes.'"

The children laughed at the explanation and the picture of lightning hitting Yellow as he lay on the ground.

"There's him," said Mark as he pointed at Yellow. The children laughed again.

Jodie continued to hold the book up so that the children could see. She looked at the book. "'All right,' Pink interrupted, 'what about eyes? What about ears, what about nostrils?'" Yellow sat down on a stone to do more thinking." When she finished the page she continued to look at the illustration. She had a very puzzled look on her face. "Hmm", she said.

"He's just tricking him," said David.

"Maybe no one made them," suggested Ryan from behind the group.

Jodie read the next pages without stopping. As she read she looked at the page, turned to the children and then looked back at the page. She continued to hold up the book so the children could see. As she turned each page a few children would chuckle. "'But you and I are so different,' said Pink. 'How come?'" read Jodie as she began to turn to the next page.

"Because he got a fat stick and he got a thin . . ." began Ryan.

Before he could finish Jodie looked at Brad. "What do you think, Brad?"

Brad's face became very animated. He began to explain. As he searched for the right words he paused after a word or phrase. "What . . . I know what . . . because . . . that pink had it the other way . . . had it different . . . because when pink imagined it, it had arms already . . . because little sticks sticking up."

Jodie pointed to the illustration. "Oh, those little twigs and things out of the wood."

Brad mumbled a response as Jodie turned to Lindsay. "What do you think, Lindsay?" she said.

"Well the little skinny guy . . . I think the branch just came down and then the man just made him with that little stick," said Lindsay.

Jodie looked puzzled. "Hmm," she said. "Well. We'll see if we find out."

The children sat very quietly and looked intently at the book as Jodie continued the story. "'That only proves what I'm saying!' cried Yellow. 'It's all accidental! You're probably a different kind of wood. You must have rolled down a different kind of hill, a soft, mushy one perhaps.' Pink was not satisfied with these explanations. He suddenly gave Yellow a challenging look. 'Explain this,' he said. 'How come we're painted the way we are?'"

The illustrations on the facing page showed Pink rolling down the hill. Before Jodie could read the print Brad became very excited. "Oh . . . There was . . . now I know . . . There was pink on the hill with little buttons and he rolled down the hill and then he got on the colour."

"Ooooh!" laughed Jodie.

"That's what happened to Yellow too," said David.

Jodie turned the page. "Now we'll see if Brad's correct." Brad had anticipated the page. The illustration showed Yellow rolling down a hill. There were three black circles on the hill and Yellow had no buttons.

"'Yellow for me'," read Jodie. "'And it came out so neat and symmetrical?' Pink said. 'With perfect edges, in just the right places? And there were three drops of white paint in a straight line for my buttons, and three black drops for yours? What about that, my yellow friend?'" Jodie looked at the children. "Hmm," she said.

### Transcription Conventions

Each recording in the C/T context (teacher reading to class) was transcribed in its entirety. In the other contexts, any statement made by the Grade 1 student, the adult helper, and the Grade 7 student that was not a reading of text was transcribed. Extended portions of text that contained no teacher, student, adult or Grade 7 student statements were not transcribed. In most instances, standard orthography was used to record the statements. A copy of the texts was kept on hand during transcription. Extended portions of text were noted as text on the written transcripts. Print and/or illustrations immediately preceding a statement were included in the written transcript.

*"Do you happen to know what we're  
doing here? asked Yellow. "No," said  
Pink. "I don't even remember getting  
here."* text

That's kind of a mystery. J

Someone made them and put them on there Ryan

Short pauses were indicated by ellipses.

and a space ship tree . . . a building Ryan  
I mean

Inaudible words or phrases were indicated by a line.

No they \_\_\_\_\_ Brad

Words said with emphasis were underlined.

He didn't have enough food around him.

Lindsay

When a group of children spoke or made other vocalizations and it was impossible to determine the identity of the speaker, the speakers were indicated as class.

Vocalizations that were not words were indicated.

Oh no! (laugh)

J/class

Following transcription each statement was numbered and the speaker noted.

Transcription of each story in the C/T context took from 2 to 10 hours depending on the length of the story, the amount of interaction and the number of children speaking at one time. The C/T context tapes were transcribed verbatim, but umms and stammering were omitted. Approximately 360 minutes of tapes were transcribed for the C/T context.

### Data

Because information from three data sources (audio-tape, interviews and field notes) was used to answer research questions one and two, data analysis procedures for each of the three data sources are described.

Audio-tapes. Transcribed statements of all participants in the five contexts were analyzed using the constant comparative method outlined by Glaser and Strauss

(1967) and coding procedures suggested by Miles and Huberman (1984). The analysis began with transcripts of the C/T context. During analysis of a transcript the researcher listened to the audio-tape and viewed the story.

Based on the literature (Brissey, 1982; Kearsley, 1976; Piaget, 1926), form, content and function had been identified as preliminary categories for exploring the data.

form: the structural characteristics of the statement

content: the subject matter of the statement

function: the purpose of the statement

However, in an attempt to avoid limiting the analysis to these three categories the data were not examined for these categories in the early stages of analysis. Other categories emerged from the data. The data were then considered for form, content and function and the other categories. Specific sub-headings of categories emerged in conjunction with these categories. These sub-headings are referred to as classes. For example, the category of form included eight classes: declarative, imperative, exclamatory, interrogative-direct-closed, interrogative-open, indirect interrogative, single word response, and non word response.

Some of the classes assigned for content and function had previously been used to refer to content and function

questions but were applicable to statements other than questions. Although many of the classes and definitions that emerged from the data were referred to in the literature, they had not previously been applied to children's interaction with narrative text.

As categories and classes emerged from the data they were coded, listed, defined and examples of each class were recorded (Appendix G). Coding was recursive. That is, each coded statement and then each coded story was compared to previously coded statements and stories to ensure that assignment of codes was consistent. Each statement was eventually assigned from three to six codes depending on the classes of information that could be derived from each statement. Statements that indicated that the children were asking questions, creating knowledge, involved in a process of inquiry, or using the skills of inquiry were identified and coded.

Codes for each statement were initially recorded in columns on a copy of the transcript. The number of each statement, and the coded analysis of each statement for each story was then entered in the computer using Microsoft Works. When each story had been entered into the computer the data were analyzed for frequencies, relationships and patterns. Matrices were prepared for recording frequencies of aspects of the context and nature of the children's

inquiry statements. A matrix was produced for each of the following:

- inquiry statements per child per story,
- inquiry skills used in each story,
- who or what evoked inquiry statements per story,
- evocations by text per child per story,
- evocations by student per child per story
- content of inquiry statements per story,
- forms of inquiry statements per story,
- forms of questions per child per story,
- content of inquiry statements per child,
- functions of inquiry statements per story, and
- functions of inquiry statements per child.

Frequency tables were arranged in chronological order according to the sequence in which the stories were read to the children. The matrices and the actual statements were examined for relationships and patterns within children and stories, from child to child and story to story. The context and nature of children's inquiry statements was also analyzed. Findings were compared with similar findings reported in the literature.

Statements from the other four contexts and the think-aloud strategy were also analyzed and coded. Because few or no inquiry statements were made by the subjects in the four

contexts the interpretation of the data from these contexts was limited and validity checks were only carried out on the data from the C/T context. Data obtained from subjects using the think-aloud strategy were compared to data obtained from those subjects in the C/T context. The comparison focused on the processing, referent, form, content and function of the children's statements in the C/T context and during the think-aloud procedure.

### **Field notes**

The field notes were not analyzed in-depth, nor were they coded. The information in the field notes served to contextualize the statements in terms of time, setting, actions, events, seating, participants and materials.

### **Interviews**

The researcher-teacher interviews were analyzed using domain analysis procedures (Spradley, 1979). Transcripts of the interviews were analyzed to identify key terms and recurring topics. Key terms were identified and portions of text containing those terms were color coded and highlighted. Similarly highlighted portions of transcripts were then grouped to determine a cover term that identified the relationship among terms and portions of the transcripts containing the terms. Codes were devised for each cover term and examples of statements that illustrated each code

were listed. In some instances portions of transcripts were assigned more than one code.

### **Inquiry in the Language Arts**

A definition, description and outline of skills of inquiry in the language arts was developed in order to analyze the transcriptions, determine if the children inquired about narrative text, and explore the nature of that inquiry. Understanding inquiry in the language arts was informed by the literature in a variety of disciplines and by insights that formed during data collection and data analysis. Although the literature does not define or describe inquiry in the language arts, or outline the skills used in the process, the literature on inquiry in science, social studies, philosophy and psychology provides useful perspectives for exploring inquiry in the language arts.

**Definition.** Definitions of inquiry in a variety of disciplines are similar in their character. Bruner (1961) incorporated searching and finding in his definition of inquiry. He equated inquiry with discovery. The search metaphor was also used by Suchman (1967) when he described inquiry as a search for meaning. The perception of inquiry as a search for an answer was repeated by Boyd (1972). Nelson (1976) stated that inquiry meant any question or search for knowledge or truth. Giarelli and Chambliss (1988) referred to inquiry as an investigation and stressed

that inquiry was not merely investigating – it was investigating with a purpose in mind. Schwab (1964) viewed knowledge as an outcome of inquiry. Newton (1970) characterized student inquiry as building personal knowledge.

A consensus appears to exist on two points. First, inquiry is a search, an investigation, a process of discovery. This implies that inquiry is an active process. Newton (1970) regarded inquiry as central to active learning. A second point is evident in the definitions. The goal of inquiry is the pursuit of knowledge, truth, meaning. Shulman (1965) described children who inquired as producers rather than consumers of knowledge. Based on these definitions, inquiry in the language arts could be defined as an active search for and construction of knowledge.

Description. Boyd (1972) defined inquiry as the search and the inquiry process as the way in which the search is carried out. Dewey (1938) referred to the inquiry process as a pattern. His pattern of inquiry included phases in the process as well as factors that influenced the process. Dewey's pattern was: an indeterminate situation, institution of a problem, determination of problem solutions, reasoning, the operational character of facts – meanings, common sense and scientific reasoning. Dewey suggested that inquiry

developed from a feeling of dissonance, an awareness of an indeterminate situation.

Shulman (1965) and Allender (1969) conceived of the inquiry process as being composed of four factors that influenced the process: problem sensing, problem formulating, search behaviour and time. Shulman echoed Dewey's thoughts, and stated that cognitive dissonance could lead to inquiry activity. Shulman referred to this initial phase of inquiry as problem sensitivity. Allender's inquiry model also began with a problem sensing state which he labelled recognition of incongruity.

Just as the processes outlined by Allender and Shulman were very similar, so were the processes outlined by Boyd (1972), Beyer (1979) and Michaelis (1988). Boyd depicted the inquiry process as: defining or redefining a problem, collecting and arranging data, forming and testing hypotheses and drawing conclusions. Boyd later modified this model but pointed out that the revised description was still too simplistic to represent the complexity of the inquiry process. Beyer included stages similar to Boyd's process of inquiry: defining the problem or question, developing a tentative answer (hypothesis), testing the tentative answer, developing a conclusion and applying the conclusion to new data or experiences. The inquiry process outlined by Michaelis began with stages similar to those outlined by Beyer, but with several additional stages at the

end of the process: evaluate conclusions, state limitations and need for further study, and discuss ways to improve in the future.

Although these scholars presented a range of descriptions of the inquiry process, specific differences were generally outweighed by the similarities in their approaches. However, one difference was notable. The process outlined by Dewey (1938), Shulman (1965) and Allender (1969) began with a perceived sense of uncertainty on the part of the person conducting the inquiry. On the other hand Boyd (1972), Beyer (1979) and Michaelis (1988) outlined inquiry as beginning with the definition of a problem. Boyd, Beyer and Michaelis identified no initial stage of problem sensing and problem finding and seemed to perceive no affective component associated with inquiry. Although there are differences in these processes, these are differences in form rather than substance. Each description of the process in greater or lesser detail deals with problem situations, questions or problems, possible answers, and conclusions. Fair and Kachaturoff (1988) stressed that the inquiry process or at least the steps in the process are recursive.

Cox (1965) and his graduate students reviewed the literature in a variety of the social sciences and were unable to find substantial differences in the nature of the inquiry process of each discipline. Kliebard (1965)

suggested that the reason Cox and his students were unable to identify differences in the inquiry process was because what differentiated the processes was not the method of inquiry but the phenomena studied. This was similar to the approach taken by Dewey (1938). Dewey suggested that the difference between common sense inquiry and scientific inquiry was that the two inquiries focused on different types of problems. Yore and Russow (1989) submitted that the skills and procedures of scientific inquiry were also used in other content areas, including reading. Boyd (1972) added another dimension to differences in the inquiry process. She stressed that prior knowledge as well as text and context influence the inquiry process.

Berlyne and Frommer (1966) suggested that the search for knowledge was facilitated by situations that were high in incongruity, inconsistency, surprisingness, and novelty. Dewey (1938) stated that the meanings we form as a result of prior experience induce inquiry. Suchman (1968) referred to discrepant or counter-intuitive events as a cause of dissonance, which can lead to inquiry. The problem situation of the inquiry process in language arts arises from dissonance that develops when the reader's construction of meaning is not compatible with situations in text and therefore the situation appears incongruous, inconsistent, novel or surprising.

Based on the previous discussion, the inquiry process in language arts could be described as: sensing inconsistencies and incongruities in situations, formulating questions or problems, suggesting possible answers and developing conclusions.

**Skills.** Hume (1894) equated human reasoning with inquiry. He also stated that the objects of human inquiry were either relations of ideas or matters of fact. Dewey (1938) reiterated Hume's assertion. Dewey equated thought with inquiry and referred to thought as a synonym for inquiry. Bruner (1961) referred to this thinking as figuring out. Newton (1970) also viewed inquiry as a rational process – a process of reasoning and thinking. He described inquiry as a process of "messing around" with objects, events and ideas to detect patterns, check consistencies and verify predictions. Connelly, Finegold, Clipsham and Wahlstrom (1976) referred to inquiry as thinking, divergent thinking and problem solving. Michaelis (1988) also regarded inquiry as a thinking process.

Yore (1990), described language arts as "peoples' attempt to search out, describe and explain patterns of communication, linguistic symbols and language systems" (p. 1). Dewey (1938) identified analyzing, inferring and judging as skills humans use in the inquiry pattern. Suchman (1961) identified generating questions as one of the

thinking skills used in inquiry. Michaelis (1988) listed evaluating, synthesizing, classifying, comparing, interpreting and remembering as thinking skills involved in inquiry in social studies. Recalling, observing, defining, interpreting, comparing, contrasting, classifying, ordering, generalizing, analyzing, synthesizing, inferring, hypothesizing, predicting and evaluating have also been identified as thinking skills used in the inquiry process.

Based on research in psychology and philosophy, Marzano, Brandt, Hughes, Jones, Presseiser, Rankin and Suchor (1988) prepared a list of core thinking skills. These skills included: focusing, information gathering, remembering, organizing, analyzing, generating, integrating and evaluating (Marzano et al., 1988). This list of skills served as a basis for identifying skills used in inquiry in the language arts, but it was modified in several ways. Only those skills of constructing new knowledge were included and skills for recalling, gathering, or transmitting previous knowledge were omitted. Because evaluating was being used in another part of the analysis of the children's dialogue, evaluating was changed to judging. Integrating (summarizing, restructuring) was combined with generating because it is one way of generating knowledge. Based on the inquiry process outlined by Dewey, Shulman and Allender, affect was also included as evidence of inquiry. An affective response indicates the child is sensing and

reacting to a situation and not simply recalling, gathering or transmitting previous knowledge.

For this study inquiry in the language arts was defined as an active search for and construction of knowledge. It was regarded as a process that involves sensing incongruities and inconsistencies in situations, formulating questions or problems, suggesting possible answers and developing conclusions. The skills of inquiry in the language arts were viewed as organizing, generating and judging. An affective response was also included as an indication of inquiry activity. This analytical framework, made up of the definition, description and skills of inquiry in the language arts, was used in analyzing children's interaction with narrative text.

### **Nature of the Inquiry**

The categories, classes and codes derived from the data are outlined below. Each category is identified and defined. Codes, definitions, references and examples are provided for classes contained in the category.

**Process.** The first category of information inferred from the speakers' statements was cognitive processing. Codes that were assigned to indicate cognitive processing gradually evolved to become an adaptation of a listing of thinking skills outlined by Marzano et al. (1988).

ORG (organizing)	matching similarities, noting differences and indicating sequences (Marzano et al., 1988).	They look like robots.
JU (judging)	assessing/evaluating reasonableness or quality (Marzano et al., 1988).	They aren't. They're people.
OBS (observing)	using the senses to obtain information from text and/or context (Marzano et al., 1988).	And look on the back, there's yellow and pink.
GEN (generating)	constructing knowledge beyond information that is given (Marzano et al., 1988).	It's them. They mean themselves.
REP (repeating)	repeating word, phrase or sentence of teacher, text, other student(s) or self (Brissey, 1982).	Back to his house. Back to the house.
R (reading)	reading print correctly or incorrectly directly from the page with or without the teacher (Brissey, 1982).	Yellow and Pink, by William Steig.
REC (recalling)	retrieve and remember given information and information from background knowledge and experience (Marzano et al., 1988).	I think I have that book.
AFF (affect)	expressing feelings, emotions (Krathwohl, 1964).	Oh no!

**Evocation.** Although the construction of meaning from text is the result of an ongoing interaction between the reader, text and context (Langer & Smith-Burke, 1982) and develops throughout the story (Langer, 1985), statements

made by the children or the teacher appeared to be finally evoked by the text (TX), the teacher (T) or other children (ST). Although there was undoubtedly considerable covert interaction between text, teacher and children, the actual overt statement could usually be attributed to one of the factors in the interaction. Exploring this aspect of the children's statements revealed the degree to which students interacted with text and context without the teacher's direct intervention. Evocations that resulted from the teacher's statement were coded to indicate if they were the result of a direct interrogative (T-D), an indirect interrogative (T-I) or a statement other than an interrogative (T). This procedure was only followed with statements evoked by the teacher to explore the degree to which teacher statements other than the traditional use of interrogatives encouraged children's thinking about text.

What do you think of that explanation? (Jodie)  
 T-D evoked by teacher using Nah!  
 (teacher/ a direct question  
 direct (Kearsley, 1976).  
 interrogative)

Interesting. And look at how they've drawn the figures here with their pencil and pen. (Jodie)

T evoked by teacher, They look  
 (teacher/not statement that is other like robots.  
 interrogative) than an interrogative.

Now, I wonder what's going to happen next? (Jodie)

**Referent.** The degree to which the statements indicated that the speaker was referring to text was the next code to emerge from the data. Terms used by Pearson and Johnson (1978) were modified and used to indicate if the speakers were referring to knowledge in the text (TXB), beyond the text (BTX), or unrelated to text (UTX). Pearson and Johnson used the term textually explicit to refer to information explicitly evident in the text (TXB). The terms textually implicit and scriptally implicit referred to knowledge that required a combination of information from text and prior knowledge or was constructed from prior knowledge (BTX). The code UTX (unrelated to text) was seldom used. Although the statement may have appeared unrelated to text, it was difficult to determine if the child had established some connection between the text or the context and his/her statement that was not apparent to the researcher. The codes TXB, BTX and UTX indicated the extent to which the speakers were constructing knowledge rather than providing or requesting information explicitly contained in the text.

*Pink was not satisfied with these explanations. He suddenly gave Yellow a challenging look. "Explain this," he said. "How come we're painted the way we are?"* (t. t)

BTX (beyond text)	knowledge related to text that requires a combination of information from text and prior knowledge or is constructed from prior knowledge.	Oh . . . There was . . . now I know . . . There was pink on the hill and he rolled down the hill and then he got on the colour.
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*Lightning hitting Yellow as he lay on the ground*  
(illustration)

TXB (text based)	information explicitly evident in the text (Pearson & Johnson, 1978).	There's him.
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*Then I lassoed it. It was hugging my bear as hard as it could* (text)

UTX (unrelated to text)	information that is unrelated to text.	I saw a birdie at McDonald's.
T-I (teacher/indirect interrogative)	evoked by teacher using declarative statement that contains an embedded partial interrogative phrase (Kearsley, 1976).	She's getting carried away with babies.

*Pink rolling down the hill* (illustration)

TX (text)	evoked by text (print and/or illustrations) or features of the book. Form of print may be direct interrogative, indirect interrogative or non-interrogative.	Oh . . . There was . . . now I know . . . There was pink on the hill with little buttons and he rolled down the hill and then he got on the colour.
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Oh . . . There was . . . now I know . . . There was pink on the hill with little buttons and he rolled down the hill and then he got on the colour. (student)

ST (student)	evoked by student's direct interrogative, indirect interrogative or non-interrogative.	That's what happened to yellow too.
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**Form.** Codes applied for form were based on Robinson and Rackstraw (1972), Kearsley (1976) and Brissey (1982). Kearsley identified form as syntax. Robinson and Rackstraw defined form as lexical grammatical features or structural characteristics.

D (declarative)	a statement that is either affirmative or negative.	That's right.
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NWRES (non-word response)	laughter, groan, gasp, sigh (Brissey, 1982).
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IMP (imperative)	a statement that indicates a request or command (Seaton, 1982).	Okay, let's find out what Yellow and Pink is about.
E (exclamatory)	an expression of surprise or worry (Seaton, 1982).	Goodness!
I-D-C (interrogative- direct-closed)	yes/no questions; answers are confirmation or denial (Robinson & Rackstraw, 1972); answer is from a fixed alternative contained in the question (Kearsley, 1976).	Does this look like it's going to be a happy story?
I-D-O (interrogative- direct-open)	introduced by "wh" words; answer belongs to an essentially infinite set of possibilities not specified in the question (Kearsley, 1976).	What do you think, Brad?
I-I (interrogative- indirect)	declaratives which contain an embedded partial interrogative phrase (Kearsley, 1976).	I wonder if that's what happened.
S (single word response)	yeah, yes, no, right, okay.	No.

**Content.** The final code to emerge from the statements was a code to indicate what the speaker was talking about. It was suggested that this code should not be applied because it would be strongly influenced by the story, but there are arguments in favour of its use. First, what the

what the speaker was talking about was influenced not just by text but by context, and to ignore this would be to ignore the interactive nature of the reading process. Second, each aspect of the statements was influenced by text and context due to the interactive nature of the reading process. Third, the subject matters of the statements occurred consistently even though the stories differed because all stories had one, or the other, or a combination of characters, actions, events, objects, locations and words. Each of these subject matters was divided to indicate what aspect, element or feature of the subject matter was the focus of the statement (e.g. properties of an object, character or location). Some of the codes applied for content were previously used by Kearsley (1976) and Robinson and Rackstraw (1972) to identify the content of questions (e.g. events, properties) but had not been used in combination (e.g. properties of an event, PR-EV).

ID-CHAR (identification of a character)	labelling who or what a character is.	They look like robots.
ACT-CHAR (action of a character)	what a character does.	I wonder what they're looking up in the sky about it's pretty strange.

PR-CHAR (properties of a character)	appearance of a character.	And notice they're wearing specific outfits, yellow and pink.
REL (relationship)	a comparison of two objects.	Kind of looks shaped like that, the circle on that, like a circle.
PR-EV (properties of an event)	components of an event.	Maybe no one made them.
PR-W (properties of a word)	sound of a word.	Isn't that an interesting word?
DES-OB (description of an object)	what something is about.	It looks like it's going to be a sad story.
OB-ACT (object of an action)	what thinking about	Wondering what?

As the statements in a segment of a story were analyzed and coded, they revealed the dynamic quality of the children's interactions with narrative text (Table 5).

**Function.** Although the purpose of many of the statements was epistemic (requesting or providing knowledge) the analysis revealed a variation in the particular approach used to achieve that goal. Many of the classes that emerged from the data were similar to those referred to by Kearsley

(1976), Brissey (1982), Kiefer (1984), and Good, Slavings, Harel and Emerson (1987).

EVAL (evaluative)	to establish addressor or addressee's knowledge of the answer (Kearsley, 1976).	I know who they are.
DIS (disagree)	to indicate disagreement with statement of text, student, teacher.	No.
OP (opinion)	to provide a personal belief or judgement ( <u>Random House Dictionary of the English Language</u> , 1987).	That was funny.
REF (referential)	to provide or obtain information explicitly referenced in text (Kearsley, 1976).	A guitar with legs.
EXPL (explanation)	to provide or obtain the cause of or reason for an action, event, outcome (Good et al., 1987)	Cause she's going to catch him and sell him to a zoo.
PROP (propositional)	to provide or obtain a proposed state of affairs; put forward for purposes of inquiry (Beck, 1974).	Maybe no one made them.
CLAR (clarification)	to obtain or provide a statement that helps to make a previous statement clearer and less ambiguous (Good et al., 1987)	Oh those little twigs and things out of wood.

CONF (confirmation)	to indicate agreement with statement of text, student, teacher (Good et al., 1987)	Uh huh.
EXPR (expressive)	to convey emotional or attitudinal information (Kearsley, 1976)	Goodness!

Three groupings of the 16 statements emerged from the codes assigned for function. The purpose of the statement involved the transmission of, manipulation of or reaction to knowledge from text or context (Table 4).

The transmission and reaction groupings of epistemic statements roughly corresponded to Halliday's (1973) categories of heuristic (exploring the world around and inside one), informative (communicating new information) and personal functions (identifying and expressing the self). Manipulation of knowledge did not correspond to any of Halliday's functions.

### Inquiry Statements

Statements that indicated that the children were either asking questions, creating knowledge or moving beyond the text were identified as inquiry statements. Statements whose purpose appeared to be to acquire or provide propositional or evaluative knowledge, explain, confirm, disagree, correct, express an opinion, express affect, and elaborate on, or clarify knowledge were also identified as

Table 4.

Function of Children's Statements During Story Reading

Transmission	Manipulation	Reaction
repeating	elaboration	expressive
personal anecdote	clarification	confirmation
demonstration		disagree
referential		correct
propositional		opinion
evaluative		
explanation		
creative		

inquiry statements. Statements that were identified as inquiry statements usually met all of the criteria and were coded with an asterisk (\*). Table 5 indicates statements from one small portion of Yellow and Pink that were identified as inquiry statements.

In several instances statements were identified as inquiry statements and coded with an asterisk (\*) even though they did not meet some of the criteria. These statements involved reading, recalling or observing, but the statement was made to support or refute a previous inquiry statement or it was made as part of a group inquiry of a

Table 5.

Children's Interaction with Yellow and Pink

	PARTICIPANT <sup>a</sup>	PROCESSING	EVOCATION	REFERENT	FORM	CONTENT	FUNCTION
Picture of chickens eating, bird flying and pink and yellow legs lying on the grass							
Goodness.	J		tx	btx	e		expr
Does this look like it's going to be a happy story?	J		tx	btx	i-d-c	des-ob	op
No. *	E	ju	t-d	btx	s	des-ob	op
It's hard to know	J	gen	st	btx	d	des-ob	op
It looks like it's going to be a sad story *	B	gen	t-d	btx	d	des-ob	op
It looks like it's going to . . . *	R	gen	t-d	btx	d	des-ob	op
yes, that's what I was going to say	R	org	st	btx	d	des-ob	conf
Yellow and pink	J	r	tx	txb			ref
Yellow and pink	R	rep	tx	txb			ref
Text							
Hello man *	D	gen	tx	btx	d	act-char	cr
It was hot and quiet, and they were both wondering	Text						
Wondering what? *	D		tx	btx	i-d-o	ob-act	prop
I wonder	J		st	btx	d		
Text							
"Do you happen to know what we're doing here?" asked Yellow. "No", said Pink. "I don't even remember getting here.	Text						

	PARTICIPANT <sup>a</sup>	PROCESSING	EVOCATION	REFERENT	FORM	CONTENT	FUNCTION
That's kind of a mystery	J	gen	tx	btx	d	pr-ev	op
Someone made them and then put them on there *	R	gen	t	btx	d	pr-ev	prop
I wonder if that's what happened	J		st	btx	l-l	pr-ev	prop
How do you know? *	D		st	btx	i-d-o	pr-ev	eval
<u>Note.</u> <sup>a</sup> PARTICIPANT: J = Jodie (teacher), E = Elizabeth, B = Brad, R = Ryan, D = David.							

concept such as bully. These statements involved reading, recalling or observing.

*One day two bullies were  
waiting for the children  
in the park* text

Now what are bullies? Jodie

Bullies are \_ \_ \_ Brad

\* Mean Elizabeth REC

\* Not people's friends.  
They're older. Brad REC  
They're making funny  
at people because they're  
older and they're picking  
on them.

The literature had used form, function and content as categories to describe the nature of statements and these categories emerged from the data. The remainder of the codes suggested three other categories. These categories were not referred to in previous literature, emerged from the data, were applicable to all statements and a wide

variety of statements. These categories were labelled process, evocation and referent. The six categories that emerged from the data were:

process – what cognitive process does the speaker appear to be using?

evocation – who or what in the context appears to have evoked the statement?

referent – where is the knowledge referred to in the statement located?

form – what are the structural characteristics of the statement?

content – what is the subject matter of the statement?

function – what is the purpose of the statement?

These six categories could be grouped under two broad headings: context of the statement – the cognitive, social and textual setting in which the statement was situated (process, evocation, referent); and the nature of the statement – dimensions which described the quality of the statement (form, function, content).

### Validity Checks

The classroom teacher and three graduate students were enlisted to ensure the accuracy of the transcriptions and

the identification of the students speaking, the consistency of coding and identification of statements as inquiry statements. One graduate student checked the accuracy of transcriptions of portions of two randomly selected stories. Although initial agreement was a disappointing 75.32%, a subsequent review indicated that 15% of these differences resulted when the reviewer did not transcribe portions of dialogue. A closer analysis revealed that of 53 inquiry statements contained in the portion of the two stories, there was agreement on 95% of the statements. The researcher explained and demonstrated the transcription conventions and provided a practice session before the student transcribed the assigned portions of audio-tape.

The classroom teacher checked the transcriptions for accuracy in identifying the students. Jodie checked the accuracy for two stories selected because they included statements by the largest number of children. Agreement was 100%.

A second graduate student checked the consistency in identifying statements as inquiry statements. The researcher defined statements identified as inquiry statements, provided a practice session and the graduate student was then given unmarked transcripts for two stories, the audio-tapes and the stories for the transcripts, and asked to identify the inquiry statements. The two stories

contained 63 inquiry statements. Initial agreement was 96%. Discussion resolved any differences.

Another graduate student assigned class codes to those statements in one story identified as inquiry statements. The statements were assigned at least one of each of the classes from each category: processing, evocation, referent, form, function, and content. This meant assigning over 500 codes. Overall percentage agreement was 87%. Subsequent discussion of those statements that had been coded differently resolved any differences. An analysis of the original differences indicated agreement of 88% - 96% on the four categories of process, evocation, referent and form and 78% agreement for content and function. The lower rates of agreement for content and function resulted from lack of clarity in defining two codes (relationships, explanation) and involved five statements. Clarification of the codes resolved all differences.

### **Summary**

In summary, data to answer the two research questions were collected using audio-tapes, field notes and interviews. The data were analyzed using the definition, description and skills of inquiry developed from a review of the literature and the categories, classes and codes that emerged from the data. Although the study had been designed to include a baseline phase, intervention phase and

retention phase, the design of the study changed as the study evolved. The discussion of results and conclusions reflects this change.

## CHAPTER 4

### RESULTS AND DISCUSSIONS

Chapter 4 begins with the final portion of Yellow and Pink. The results of data analysis for research questions one and two are outlined in relation to data from Yellow and Pink and then applied to data from the other 23 stories. Results are discussed using examples from the dialogue and from the quantitative analyses.

#### *Yellow and Pink*

*Jodie looked at the picture with a puzzled expression on her face. The children followed suit.*

*As the children listened quietly Jodie began the next page. "Yellow was silent. He leaned against a tree stump, scratching his wooden head. 'I can't answer all the questions,' he said finally. 'Some things will have to remain a mystery. Maybe forever. But why are we arguing on such a fine day?'"*

*As Jodie finished the page, Shawn scratched his head. "Hmmm," he said. He looked just like the character in the illustration.*

*The children were engrossed by the story. They sat very still and quiet. Even David was not moving. His head was propped up by his hands, his elbows planted firmly on his crossed legs. Brad's eyebrows were wrinkled. You could almost hear him trying to solve the mystery. Ryan had moved closer to the group. Perhaps the mystery had drawn him in physically as well as mentally. The only sounds in the room were muffled noises from the next classroom and the running of the water and the banging of the paint pots as Mrs. Chambers continued her cleaning.*

*Jodie turned the page and began to read. "Just then a man who needed a haircut came shambling along, humming out of tune. He picked up Pink and looked him over. 'Nice and dry,' he said. He tucked them both under his arm and headed back where he'd come from. 'Who is this guy?' Yellow whispered in Pink's ear. Pink didn't know."*

Ryan had been kneeling and resting on his heels. He suddenly straightened up. "I know," he said. "It was the guy that made them."

Just as Ryan was blurting out his response to Yellow, Brad's eyes widened and he joined in. "I know, the guy that made them."

"Sure?" said Jodie.

"Yes," said Ryan and Brad with great certainty, their heads nodding as if to convince Jodie that they were right.

David agreed. "It is I know."

"Cause he wouldn't know about them but then he would just think it was somebody else's," Brad said. He was excited. He spoke quickly, pausing after every phrase to take a breath and organize his thoughts.

"And he wouldn't just left them," said Tessa as she looked straight at Jodie.

Jodie lowered the book in front of herself. The children were becoming very animated. Children spoke as other children were speaking. They looked at Jodie, the book and each other.

Jodie looked at Brad. "What do you think he's going to turn them into?"

Brad shrugged his shoulders. "I don't know," he said.

Jodie rephrased her question. "What is he going to do with them?"

Brad wasn't sure. "He's probably going to keep them and use them like, like he did," he said, his voice reflecting his uncertainty.

"Put some hair dresser stuff . . ." began Ryan.

Brad interrupted. "Put them on the shelf," he said, now sounding quite sure of himself.

"I know what they're going to do," said David.

Jodie turned to David. "What do you think, David?"

"They're going to give them, if he has kids, he's going to give them to them," replied David as if that were the definitive answer.

"Oh, as toys, sort of," said Jodie.

"Yeah," said David very matter-of-factly.

"Oh," Jodie replied.

David seemed to reconsider. "Brad's right," he said with no other indication he had changed his mind.

Jodie continued to question. "What do you think, Elizabeth? Where are those two wooden figures going?"

"Home," boomed Ryan.

"Back to his house I guess," said Elizabeth very quietly.

"Back to the house . . ." began Jodie.

"Where they got made from," Brad interjected. He had a big smile on his face - quite pleased with how he'd sorted out the mystery.

Jodie smiled. "Where they were made?" she said.

"Yeah," said Ryan.

Jodie agreed, "Um hmm."

"And they got . . ." David began.

Jodie put the book in her lap. "Well. A very different book isn't it?" she said. "It doesn't tell us the ending, we can invent the ending. Very nice. Okay!"

The story was finished. The children waited for directions.

David had the last word. "I was right," he said, as if there had never been any doubt in his mind nor should there have been in the mind of anyone else.

#### Inquiry in the Language Arts

1. If the teacher instructs students in text inquiry and creates conditions that encourage text inquiry, will subjects across ability levels inquire about text in five contexts (C/T, S/S, S/B, S/A, S)?

C/T - the Grade 1 children were read to by the classroom teacher

To answer research question one the data were analyzed using the previously outlined definition, description and skills of inquiry. Three auxiliary questions were posed:

- a. Did the children search for and construct knowledge?

- b. Did the children engage in the inquiry process, i.e. did they sense incongruities, formulate questions, suggest possible answers, or develop conclusions?
- c. Did the children organize, generate, judge or respond affectively to knowledge and information?

Although posing and answering these three questions is necessary to answer research question one, it is not sufficient for an in-depth understanding of the data. It is also important to consider the degree to which the children inquired about narrative text. Therefore this discussion will begin by focusing on whether or not the children inquired about narrative text in the C/T context and then consider the degree to which they did so.

Did the children search for and construct knowledge? All of the children present when Jodie read Yellow and Pink made at least one statement that indicated they were searching for and constructing knowledge. Some of these statements were interrogatives and some were non-interrogatives.

They look like robots	Ryan
They aren't. They're people.	David
<i>It was hot and quiet and they were both wondering.</i>	text
Wondering what?	David

"Who are we?"	text
I know who they are.	Elizabeth
<i>Sand blowing in the wind might have helped with the smoothing</i>	text
Nah! It didn't happen . . .	David
No.	Jean
What do you think, Lindsay?	Jodie
Well the little the skinny guy	Lindsay
I think the branch just came down and then the man just made him with that stick.	
(Are you) Sure?	Jodie
It is I know.	Stacey
Cause he wouldn't know about them but then he would just think it was somebody else's.	Brad
And he wouldn't just left them.	Tessa
<i>"And wouldn't we know who made us since we had to be there when we got made."</i>	text
No	Shawn
Isn't that an interesting word.	Jodie
Yeah	Mark

David and Brad were the only children who made interrogative statements as they searched for and constructed knowledge. In all 24 stories, some or all of the children searched for and constructed knowledge. However, some children searched for and constructed knowledge more than others.

Table 6 indicates that during the 24 stories the children made a total of 1149 inquiry statements. These statements were interrogatives and non-interrogatives. They were evoked by text, by other students, or by the teacher's statements. The number of these statements varied from 110 in Come Away From the Water Shirley (Shi) to 14 in Benjamin's 365 Birthdays (Ben).

In several instances children were not in the classroom when Jodie read the story. In Table 6 children's absences are indicated by a dash (-). Elizabeth was absent for two stories on May 31, Come Away from the Water Shirley (Shi) and The Very Last First Time (VL). Ryan was with the learning assistant when Jodie read Avocado Baby (Avo). Tessa was absent for Tillie and the Wall (Til) and Mark was absent for Abdul Gasazi (Abd).

Did the children sense incongruities, formulate questions, suggest answers and develop conclusions?

Did they sense incongruities? In Yellow and Pink, Ryan, David and Elizabeth were curious about the nature of the characters.

They look like robots.	Ryan
They aren't. They're people.	Brad
"Who are we?"	text
I know who they are.	Elizabeth

Shawn, Brad, Jean and Ryan took issue with the creation of the characters.

Table 6

Inquiry Statements by Subjects for Texts

	AIR	Cap	Win	Til	YP	AIM	Bad	DC	You	YE	Abd	EC	All	Att	Avo	Bar	Ben	VL	Shi	WG	MM	Tom	Ira	Sti	Total
Eliz	2	3	1	1	4	3	0	0	1	6	3	9	10	7	4	8	1	-	-	1	12	6	4	0	86
Jean	1	4	3	6	1	0	11	3	1	3	1	9	4	8	2	11	2	1	12	1	11	1	2	5	105
Dave	1	3	7	1	15	1	1	8	3	16	1	5	6	7	4	10	2	10	20	7	2	3	7	3	144
Shaw	4	1	1	2	1	2	2	3	1	3	1	1	5	3	0	6	1	6	15	1	3	2	2	6	71
Lind	2	0	2	2	1	2	2	2	1	1	5	1	2	3	2	1	1	1	4	1	1	2	2	0	40
Stac	10	5	6	5	1	2	1	7	2	12	3	16	23	15	17	11	1	2	12	4	21	6	12	0	190
Ryan	3	6	7	3	12	1	2	4	5	13	10	2	3	8	-	8	2	18	23	5	7	0	8	4	155
Brad	3	2	11	7	16	7	7	19	10	26	24	13	22	22	24	32	3	7	21	12	17	3	11	2	312
Tess	0	0	0	-	1	0	0	0	0	0	1	0	2	1	0	0	0	0	1	0	4	0	1	0	11
Merk	0	2	0	1	1	2	0	1	0	2	-	2	4	3	3	0	1	2	2	1	4	3	1	1	35
Total	26	26	38	28	53	20	26	47	24	87	49	58	81	77	56	87	14	47	110	33	82	26	50	21	1149

<i>"Do you happen to know what we're doing here?" asked Yellow. "No," said Pink. "I don't even remember getting here."</i>	text
That's kind of a mystery. Someone made them and put them on there.	Jodie Ryar
<i>"And wouldn't we know who made us since we had to be there when we got made?"</i>	text
No.	Shawn
<i>"Sand blowing in the wind might have helped with the smoothing."</i>	text
Nah! It didn't happen . . .	David
No.	Jean
That didn't happen.	Brad

David wondered about what the characters were doing and what was said by other children in the group.

<i>It was hot and quiet and they were both wondering.</i>	text
Wondering what?	David
Someone made them and put them on there.	Ryan
I wonder if that's what happened	Jodie
How do you know?	David
<i>"That's preposterous!"</i>	text
Deposterous?	Brad
Isn't that an interesting word.	Jodie
Don't you know what it is Brad?	David

Brad expressed his uncertainty about the meaning of a word and the nature of a situation.

<i>"That's preposterous!"</i>	text
Deposterous?	Brad

What do you think he's going to turn them into?	Jodie
I don't know.	Brad
What is he going to do with them?	Jodie
He's probably going to keep them and use them like he did.	Brad

Did the children formulate questions, suggest answers and develop conclusions? David and Brad formulated questions.

Wondering what?	David
How do you know?	David
Deposterous?	Brad
Don't you know what it is Brad?	David

All of the children suggested answers to posed or perceived questions and problems.

<i>"Do you happen to know what we're doing here?" asked Yellow.</i>	text
Someone made them and then put them on there.	Ryan

<i>"Who are we?"</i>	text
I know who they are.	Elizabeth

<i>"And wouldn't we know who made us since we had to be there when we got made?"</i>	text
No.	Shawn

Isn't that an interesting word.	Jodie
Yeah.	Mark

<i>"Sand blowing in the wind might have helped with the smoothing."</i>	text
Nah! It didn't happen . . .	David
No.	Jean
That didn't happen.	Brad

What do you think, Lindsay?	Jodie
Well the little skinny guy,	Lindsay
I think the branch just came	
down and then the man just	
made him with that little stick.	
<i>"Who is this guy?" Yellow whispered</i>	text
<i>    in Pink's ear. Pink didn't know.</i>	
I know. It was the guy that	Ryan
made them.	
It is I know.	Stacey
And he wouldn't just left them.	Tessa

The examples included in Table 7 represent a small sample of inquiry statements from the 24 stories, but they are included to indicate that the children's inquiry statements represent the various stages of the inquiry process. The three statements from each story represent various stages in the inquiry process, but they do not represent three stages of one inquiry. Although it is difficult to remove a statement from context and maintain a sense of where the statement fits in the inquiry process, these examples provide snapshots of children sensing incongruities, formulating questions and suggesting answers or developing conclusions. The selection and placement of these statements was arbitrary. Statements were selected because they were more obvious than others and placed in a specific stage of the process because they suggested at least that part of the inquiry process.

Did the children organize, generate, judge and respond affectively to knowledge and information? During the

Table 7.

Statements Representing Stages of the Inquiry Process

Story	Sense incongruities	Formulate questions	Suggest answer or develop conclusions
Abd	But they weren't really ducks. He's just pretending.	Your grandma was a fireman?	Maybe he's running after the dog so he won't go in the garden.
All	If the sheets were red and he was green you could see him.	I wonder where the alligator goes?	It was always under his bed.
AIM	They would run and scream they were do it to them.	Why?	It made the colour onto him. The colour went onto him.
AIR	That's not nice.	What does that say?	Because he had shaggy hair.
Att	It's not the girl who's doing it. She's not scared.	I wonder if she's going to go up in the attic and take care of the monster?	She's mad because he doesn't believe her.
Avo	Ohh! Whoa! Hey!	Well why don't they have the other part of the book?	And lift everything. and lift the world up.
Bad	Badger's still alive because he has to give the presents out.	What's a parting gift?	I know what happens, he dies.
Bar	He looks like he doesn't like it in there.	Will he make a mess in the school?	Cause he got loose.
Ben	He couldn't have 39 birthdays cause he's only 9.	Doesn't Benjamin have any parents or anything?	Cause his house is a mess.
Cap	But they're yellow caps not grey caps.	Are all those just his?	This one is his.
DC	I don't remember him saying that.	Why?	Cause he said they have boats and wings . . . flying.
EC	No. She's wearing . . . it's a girl.	I wonder if the bear's going to be the mouse's friend.	He wants to see if there is, the duck is like the same as the one in the store.
Ira	Somebody got attention?	Is it a boy or a girl?	She might be scared.
MM	Usually the cows, milk cows, are milk cows are black and white.	What is this thing for?	She's going to the circus.
Shi	Where's the dog?	Where's the crown?	They digged up the gold.
Sti	The seeing stick?	I wonder if he gets a stick and can see through it.	Because she can touch now.
Tom	Why doesn't he play on the porch?	What are shrubs?	Because of his voice and his hair.
Til	Uh, uh! That's not real. That's Tillie's dream.		I think there's another set of mice on the other side.

Story	Sense incongruities	Formulate questions	Suggest answer or develop conclusions
VL	But that's in England.	What red handle?	She has to get out.
WGM	But there's power lines where he is.	What is he hanging on Mrs. Esch?	Maybe the hen was brooding.
Win	They look like they have the same kind of shirt.	What if it happened to you Brad?	Maybe a ball flew away.
YE	I'm not a baby and I know.	Is there a type of flower that's a black flower?	He might not like things.
YP	And he wouldn't just left them.	Wondering what?	Someone made them and put them on there.
You	In the water?	What did they do?	She's going to get water.

reading of Yellow and Pink, Ryan organized (ORG), generated (GEN) and judged (JU) knowledge and information. David and Brad generated and judged knowledge and information. Elizabeth generated and organized knowledge and information. Tessa and Lindsay generated knowledge, and Mark, Shawn, Jean and Stacey judged knowledge and information. While Jodie read the story Yellow and Pink, all of the children made statements that indicated they were using inquiry skills.

Shaped like a wire, like a telephone wire.	Ryan	ORG
Maybe no one made them. (Are you) sure?	Ryan	GEN
Yes.	Jodie	
	Ryan	JU
He's just tricking him.	David	GEN
Brad's right.	David	JU
That. I know what, because, that Pink had it the other way, had it different because when Pink imagined it, it had some already because little sticks sticking up.	Brad	GEN

That didn't happen.	Brad	JU
Where are those two wooden figures going?	Jodie	
Back to his house I guess.	Elizabeth	GEN
Kind of looks shaped like that, the circle on that, like a circle.	Elizabeth	ORG
And he wouldn't just left them.	Tessa	GEN
Well the little skinny guy, I think the branch just came down and then the man just made him with that little stick.	Lindsay	GEN
Isn't that an interesting word.	Jodie	
Yeah.	Mark	JU
<i>"And wouldn't we know who made us since we had to be there when we got made?"</i>	text	
No.	Shawn	JU
<i>"Sand blowing in the wind might have helped with the smoothing."</i>	text	
No.	Jean	JU
(Are you) Sure?	Jodie	
It is I know.	Stacey	JU

In all of the 24 stories the children generated and judged information and knowledge. In many of the stories the children organized and responded affectively to knowledge and information.

Table 8 indicates the inquiry skills that the children used as they interacted with text. It illustrates that during the inquiry process the children made statements indicating they were generating knowledge (GEN) nearly 42%

Table 8.

Frequency of Inquiry Skills by Text

	AIR	Cap	Win	Til	YP	AIM	Bad	DC	You	YE	Abd	EC	All	Att	Avo	Bar	Ben	VL	Shi	WG	MM	Tom	Ira	Sti	Total
gen	19	9	26	17	27	16	19	22	15	58	38	30	51	57	36	51	6	28	58	18	37	12	32	13	695
ju	4	3	6	2	19	3	4	13	3	13	3	3	11	9	8	20	2	2	19	3	18	7	12	4	191
org	0	7	2	1	4	0	0	3	0	1	5	8	1	4	4	4	0	3	4	3	4	0	1	1	60
aff	0	0	1	0	0	0	1	1	0	6	0	0	1	2	4	2	0	3	6	0	2	0	2	0	31
Total	23	19	35	20	50	19	24	39	18	78	46	41	64	72	52	77	8	36	87	24	61	19	47	18	977

Note. The total for inquiry skills does not equal the total of inquiry statements. Several inquiry statements did not reflect these skills, some inquiry statements were interrogatives, and some inquiry statements reflected more than one inquiry skill.

more often than they made statements indicating they were judging, organizing and reacting affectively to knowledge or information from text or context. During all stories children generated knowledge.

They're going to think back  
when they were young.

Maybe they're going to. Maybe  
they don't like doing things  
and when they don't like doing  
them that's how they talk and  
they say, "Yeck Yeck".

I guess he's sitting down and eh-h-h.

Look at the front that might give  
us an idea.

The children generated knowledge more than they judged, organized or responded affectively to knowledge and information when inquiring about narrative text. This suggests that in constructing knowledge of narrative text the children were more interested in proposing their own answers to issues raised by the text, students or teacher than they were in comparing and contrasting information and judging information proposed by the text, other students, or the teacher.

The limited number of affective statements may suggest that the children made an overt response when they had moved beyond an awareness of a problem to suggesting answers to the problem. The majority of the affective responses were

evoked by situations in which the character was in some danger or difficulty. Berlyne and Frommer (1969) indicate that novelty, surprisingness, incongruity and uncertainty are factors that evoke inquiry. It appears that in this study empathy was another factor that evoked inquiry.

Children made statements indicating that as part of their inquiry they were judging information (JU) nearly 20% of the time. These statements ranged from single words evoked by the teacher (Yeah) to longer statements evoked by a student or the text (No, she's wearing, it's a girl):

And he's got his lights on too  
so he's very safe.

No. He can't. He can't cause  
the door's shut.

It's better to wake up.

That's not good to leave people  
in the attic but it's more quieter  
up in the attic when you sleep  
there.

Statements that indicated the children were organizing knowledge (ORG) were those in which the children compared, contrasted or categorized knowledge:

(When she's a woman) Like you.

But a dog can't be as big as a,  
its dogs are small, usually small,  
they're not as big . . .

That's the same as the back.

That's strange because it's like  
Ernest goes to camp.

That's just like an alligator  
under my bed.

Only 6% of the children's inquiry statements indicated that they were organizing knowledge, and these statements occurred in 18 of the 24 stories.

Individual children's statements reflected an affective response (AFF) to text or context in only 12 stories. These statements varied considerably and ranged from one to six affective responses in the 12 stories. Statements which involved an affective response but were made by more than one child were therefore identified as a statement made by class. These statements were excluded from the analysis. Statements reflecting an affective response included non-word responses (NWRS) and exclamations (E):

Oh no!  
Uh oh!  
Holy!  
Gasp  
Yikes!

An interesting observation revealed by Table 8 is that no one story led to the largest number of statements for each of the inquiry skills. During Yeck Eck (YE) and Come Away From the Water Shirley (Shi) the children made the largest number of statements indicating they were generating knowledge (58) and responding affectively (6). Barnabas Walks led to the most statements that indicated the students

were judging information and knowledge (20). The most statements reflecting the use of organizing occurred during Ernest and Celestine (8) and Caps for Sale (7).

The answer to the first research question, at least in the C/T context, appears to be a resounding "Yes." For this study inquiry in the language arts was defined as a search for and construction of knowledge. It was described as a process that involved sensing incongruities, formulating questions, suggesting answers and developing conclusions. The skills of inquiry in the language arts were outlined as generating, judging and organizing knowledge and information and responding affectively to knowledge and information. The children in this study inquired about narrative text. Their statements were interrogative and non-interrogative statements and were evoked by text, other children or the teacher. There were differences in the number of inquiry statements made by each child and the number of inquiry statements made during each story. The children's statements indicate that they were involved in the inquiry process. They sensed incongruities, formulated questions and suggested answers or developed conclusions. The children used inquiry skills. They generated knowledge more than they judged, organized or responded affectively to knowledge and information. Having concluded that the children's statements indicate that they engaged in inquiry

of narrative text, it is important to consider the degree to which they did so.

Several points should be kept in mind when considering the degree to which the children inquired about narrative text: the interactive nature of the reading process and the role of the children, the text, and the teacher in that interaction. It is seductive to propose that any variability in the number of inquiry statements was due to one or the other of three factors: the children, the text and the teacher. However, if one accepts that constructing meaning from text is an interactive process involving reader, text and context (Langer & Smith-Burke, 1982; Valencia & Pearson, 1987) then any variability must be due to the interaction among these factors. The following discussion will consider the variability in inquiry activity of each child, and from child to child, and then consider two factors that may have contributed to this variability: the text and the teacher.

### The Children

There was considerable variability for each child and from child to child in the number of inquiry statements made from story to story. Table 9 illustrates the number of inquiry statements made by each child and the number of stories in which the child did so (e.g. in three stories Elizabeth made no inquiry statements, and in five stories

Table 9

Number of Texts and Frequency of Inquiry Statements

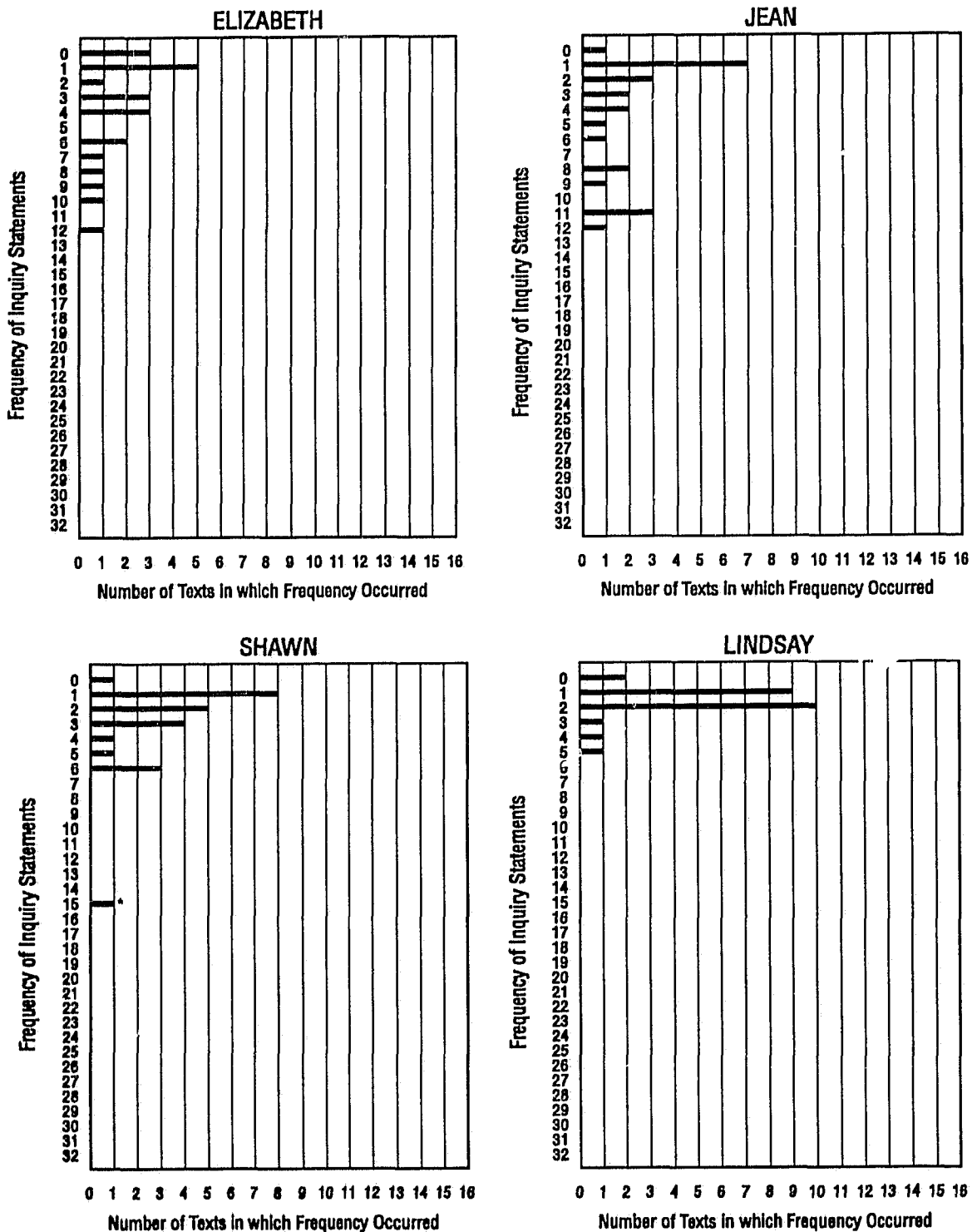


Table 9 (continued)

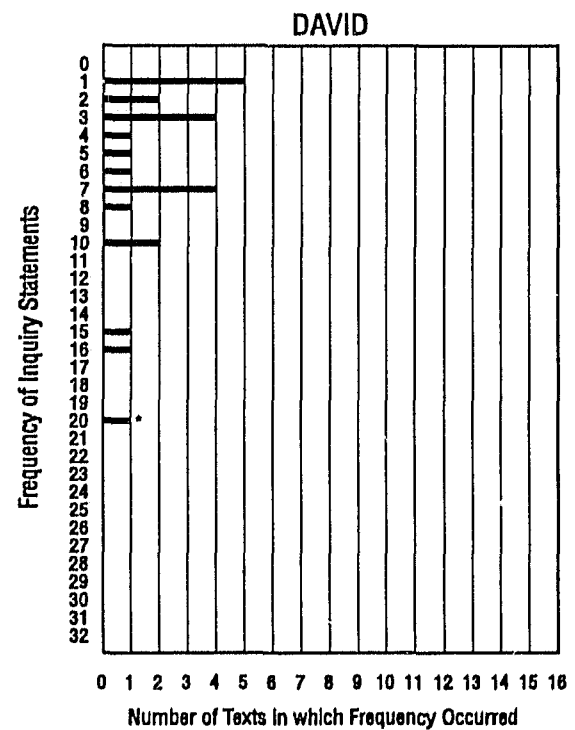
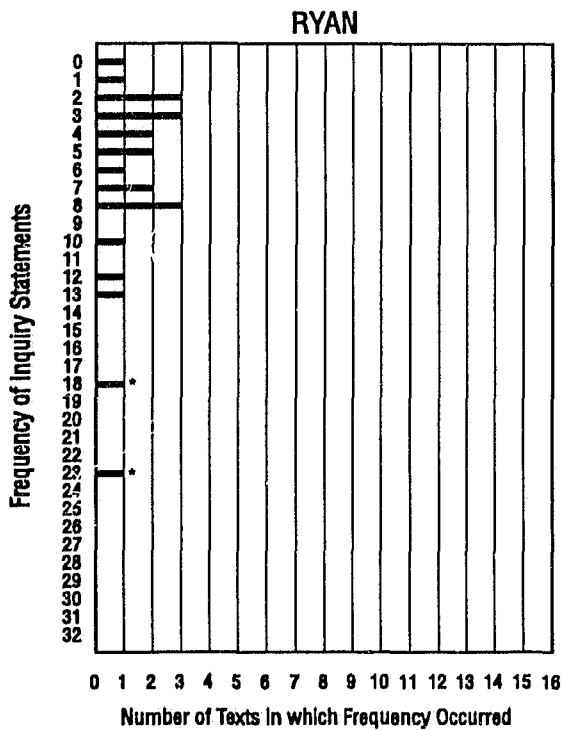
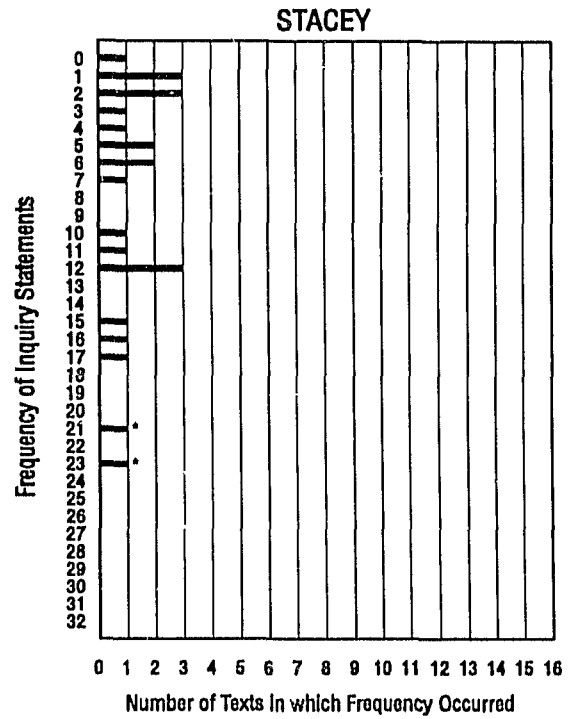
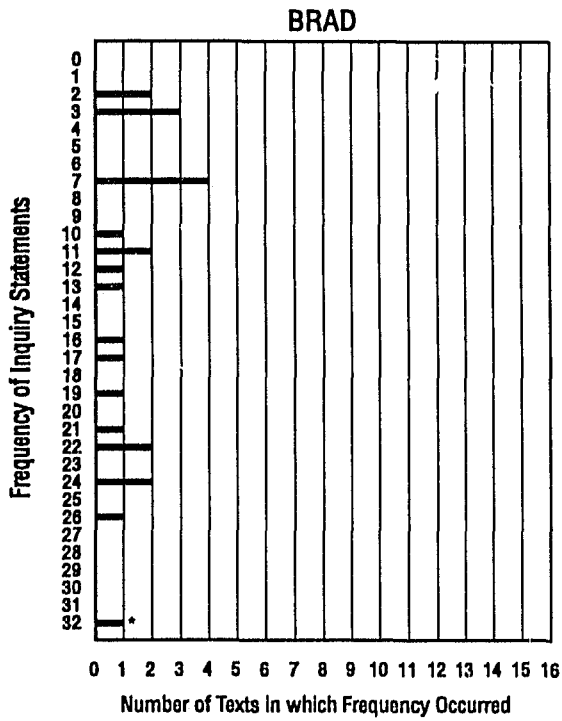
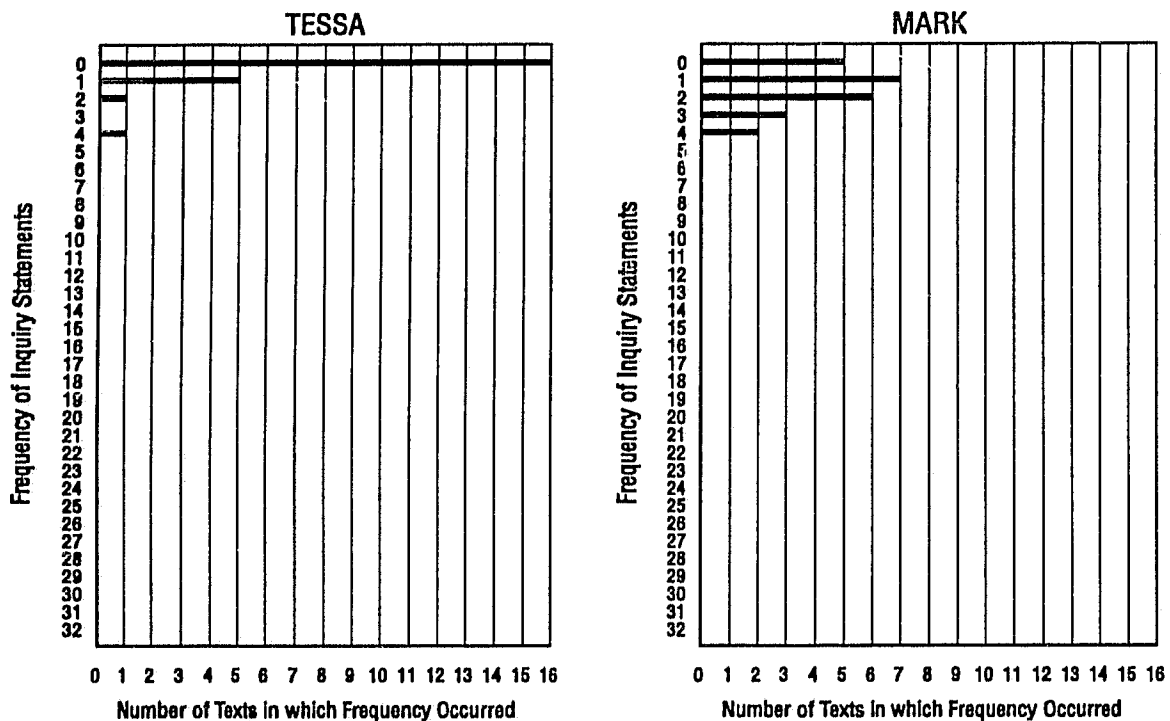


Table 9 (continued)



she made one inquiry statement). The number of inquiry statements per story ranged from zero to four for Tessa and Mark and from 2 to 32 for Brad. Although the number of inquiry statements Shawn made ranged from 0-15, it should be noted Shawn's 15 inquiry statements for one story could be referred to as an unusual performance since the range of inquiry statements he made for the remainder of the 24 stories was zero to six.

Mark, Tessa and Lindsay were most consistent in the number of inquiry statements made for each story. Brad,

Stacey, Ryan and David were most inconsistent in the number of inquiry statements made for each story. Brad had the greatest range and the greatest variability in the number of inquiry statements made per story.

The clustering that occurs for each child at the low end of the number of inquiry statements (see Table 9) indicates that each child showed some degree of consistency in the number of inquiry statements for many of the stories. However, there were some stories for each child that led to greater inquiry activity. These stories were the same for more than one child, and the majority of the stories could be referred to as action/fantasy stories. The importance of context as well as text in stimulating the children's inquiry is reflected in the fact that more than one child made larger numbers of inquiry statements for the same stories. It appears that one child's heightened interest and inquiry led to another child's heightened interest and inquiry.

The degree of variability in the children's inquiry activity is highlighted by what is referred to as unusual performance. For individual children unusual performances are those in which the number of inquiry statements occurred only once and involved at least three more inquiry statements per story than the number of inquiry statements

for more than one previous story. Unusual performance is indicated in Table 9 by an asterisk (\*).

Perhaps more revealing than the number of inquiry statements made by each child is the percentage of inquiry statements he/she made. Table 10 indicates the percentage of inquiry statements for each child for each story and each child for all stories. The percentage of inquiry statements made by each child for all 24 stories ranged from fewer than 1% of the statements (Tessa) to more than 27% of the statements (Brad). There are similarities in percentage of inquiry statements for pairs of children (Mark 3.05%, Lindsay 3.48%; Shawn 6.18%, Elizabeth 7.48%; David 12.53%, Ryan 13.48%). However, there is considerable variability between these pairs of children and the three other children (Tessa .96%, Stacey 16.54%, and Brad 27.16%). Except for Jean (9.14%), there are also differences between the children's percentages and what would be an average for each of the ten children (10%).

Table 10 illustrates the considerable variability for each child from story to story.

An interesting aspect of each child's inquiry activity is the relationship between his/her percentage of inquiry statements and level of literacy development. Table 11 lists the percentage of the total inquiry statements made by each child and his/her literacy level as judged by the

Table 10

Percentage of Inquiry Statements by Subjects

	AIR	Cap	Win	Til	YP	AIM	Bad	DC	You	YE	Abd	EC	All	Att	Avo	Bar	Ben	VL	Shi	WG	MM	Tom	Ira	Sti	Overall %
Eliz	7	12	3	3	7	15	0	0	4	7	16	16	12	9	7	9	7	—	—	3	15	23	8	0	7.48
Jean	4	15	8	21	2	0	42	6	4	9	2	16	5	10	4	12	14	2	11	3	12	4	4	24	9.14
Dave	4	12	18	2	28	5	4	17	12	18	2	8	7	9	7	11	14	21	18	12	2	12	14	14	12.53
Shawn	15	4	3	7	2	10	7	6	4	3	2	2	6	4	0	7	7	12	14	3	4	7	4	29	6.18
Lind	7	0	5	7	2	10	7	4	4	1	10	2	3	4	4	1	7	2	3	3	1	7	4	0	3.48
Stacey	38	19	16	19	2	10	4	15	9	14	6	28	28	19	30	13	7	4	11	21	26	23	24	0	16.54
Ryan	12	23	18	12	23	5	7	9	21	15	20	3	4	10	—	9	14	40	21	15	9	0	16	19	13.48
Brad	12	7	29	25	30	35	28	40	41	30	40	22	27	29	43	37	22	15	19	36	21	12	22	10	27.16
Tess	0	0	0	—	2	0	0	0	0	0	2	0	3	1	0	0	0	0	1	0	5	0	2	0	.96
Mark	0	7	0	3	2	10	0	2	0	2	—	2	5	4	5	0	7	4	2	3	5	12	2	4	3.05

Table 11

Percentage of Inquiry Statements for Subject and Ability

Subject	% of statements	ability
Tessa	.96	low
Mark	3.05	low
Lindsay	3.48	average
Shawn	6.18	average
Elizabeth	7.48	average
Jean	9.14	average
David	12.53	low
Ryan	13.48	low
Stacey	16.54	high
Brad	27.16	high

classroom teacher based on products from writer's workshop, responses given during conferencing, and ability to use language appropriately in a variety of large and small group settings. Although the level of language development for most children is reflected in their percentage of inquiry statements, this is not the case for Lindsay, David and Ryan. Although Lindsay's level of ability was average, her apparent insecurity, fear of failure, and her desire to be

correct may have influenced her participation in discussions. Ryan and David both appeared to be experiencing a great deal of difficulty learning to read and Ryan was being provided with learning assistance several times per week. However, both boys seemed curious, high spirited and willing to express their ideas and opinions. These results for Lindsay, Ryan and David coincide with Dillon's (1986) proposition that in order to inquire, students must have courage (willingness to risk) and will (resolve to find out).

The amount of variability in each child's inquiry activity could be attributed to an interaction of student, text and context-related factors. Student-related factors include the cognitive, affective and behavioural dispositions of the child (Bruner, 1961; Dillon, 1986; Flammer, 1981), personality and motivation (Allender, 1969; Shulman, 1965), prior knowledge (Beaugrande, 1981; Cirillo, 1981; Waters, 1981), interest, attitude and prior knowledge (Spiro, 1980) and individual style of inquiry behaviour (Henderson & Moore, 1979; Langevin, 1971). The novelty, surprisingness, incongruity, amount of information and uncertainty of text (Berlyn & Frommer, 1966) and the clues (Smith, 1982; Valencia & Pearson, 1987) and gaps (Iser, 1978; Watson, 1985) in text also contribute to each child's inquiry activity. Dillon (1988) and Lindfors (1980) point

out that the teacher is also critically important in the questioning activity of children.

### The Texts

The variability in the number of inquiry statements made for each story and from story to story can be examined as an aspect of the variability in the number of inquiry statements made by each child. Table 6 reveals that in eight of the 24 stories all of the children present during the story made at least one inquiry statement. One child, Tessa, did not make any inquiry statements in 16 of the 24 stories. For seven stories, nine children made inquiry statements, for ten stories eight of the children made inquiry statements, and for two stories seven children made inquiry statements. During The Seeing Stick (Sti) only six children made inquiry statements. The Seeing Stick was one of the stories in which the teacher neither modelled nor invited inquiry. The story was read on June 18, it was the second of two back to back stories, and it was begun at 11:20 a.m. The story had a great deal more text than most of the other stories, was about a foreign land and had a greater focus on feelings and emotions than the other 23 stories. There was also a great deal of activity going on in the classroom at the time Jodie was reading. Two teacher helpers were using a ladder to remove pictures from the wall and they were chatting as they did so.

Table 12 lists the percentage of overall inquiry statements that occurred for each story. Come Away from the Water Shirley (Shi) stimulated almost 10% of all inquiry statements. This story also led to three of the unusual performances mentioned earlier: Shawn (15), David (20) and Ryan (23). All three of these performances were by boys. Jean made more inquiry statements for this story than for the other stories, although hers was not an unusual performance. Come Away from the Water Shirley (Shi) is an action-filled fantasy story in which a little girl imagines herself to be a pirate.

As illustrated in Table 12, the percentages of inquiry statements for the remainder of the stories cluster together to form five groupings. The second group of stories stimulated 6.44% to 7.57% of the inquiry statements for all 24 stories. These percentages are still well above the average number of statements that could be anticipated for the 24 stories (4%). The next group of seven stories led to what could be considered an average number of inquiry statements for each story. There does not appear to be a common element among these stories. They could be described as action (Avocado Baby [Avo], Dream Child [DC]), mystery (Abdul Gasazi [Abd]); fantasy (Ernest and Celestine [EC]); real-life problem (Ira Sleeps Over [Ira]); and real-life adventure (The Very Last First Time [VL]). The fourth group

Table 12

Percentage of Inquiry Statements for Texts and Contexts

Text	%	Context
Shi	9.57	M/I
Bar	7.57	M/I
YE	7.32	M
MM	7.14	I
Att	6.70	M/I
All	6.44	M/I
Avo	4.87	M/I
YP	4.61	M
EC	4.61	M/I
Ira	4.35	I
DC	4.09	M
VL	4.09	M
Abd	4.09	M/I
Win	3.31	N
WG	2.87	N
Til	2.44	N
Cap	2.26	N
Bad	2.26	M
AlR	2.26	N
Tom	2.26	I
You	2.09	N
Sti	1.83	N
AlM	1.74	N
Ben	1.23	I

Note. N = no modeling or inviting  
interrogative statements  
M = modeled interrogative statements  
I = invited interrogative statements  
M/I = modeled and invited  
interrogative statements

of stories led to 1.74% to 2.89% of the inquiry statements. None of these stories could be referred to as action, adventure or fantasy stories. Two of the stories had been read previously (Caps for Sale [Cap] and Wilfred Gordon MacDonald Partridge [WG]). Benjamin's 365 Birthdays (Ben) was a problem-solving story. The children had previously heard the story and, consequently, knew the solution to the problem.

Table 10 reveals that stories varied in the rates of inquiry statements of individual children for each story as well as in overall percentages of inquiry statements. Some stories that led to a great many inquiry statements had smaller differences between students and more instances of students with the same or similar numbers of inquiry statements than other stories with many inquiry statements. Some stories that led to smaller numbers of inquiry statements resulted in little variability among students; however, others led to a wide range of difference between students. There's an Alligator Under My Bed (All) and There's a Nightmare in My Attic (Att) were two such stories. Both of these stories deal with children's fears about being alone in their bedrooms at night. They both contain an imaginary creature, action, problem solving and ambiguous endings. In both of these stories all children made inquiry statements. For There's an Alligator Under My Bed (All) two children each made approximately 27% of the inquiry

statements, one child made 12% of the statements, and the seven other children made from 3% to 6% of the inquiry statements. For There's a Nightmare in My Attic (Att), one child made 29% of the inquiry statements, one child made 19%, one child made 1% and the other seven children made 4%, 9% or 10% of the statements. Badger's Parting Gifts (Bad), a story about the death of a friend, led to very few inquiry statements (22) and to a great deal of variability in the number of children's statements. Jean made 42% of the inquiry statements, Brad 27%, five children made 4% or 7% of the statements and three children made no inquiry statements. Dream Child (DC), When I Was Young in the Mountains (YOU) and Abdul Gasazi (Abd) led to similar variability.

### The Teacher

Valencia and Pearson (1987) and Spiro (1980) pointed out that context plays an important role in children's interaction with text. Hunsberger (1985), Shanklin and Rhodes (1989) and Tierney and Pearson (1986) identified environment as one part of context and the teacher as an important factor in the environment. Tizard et al. (1983) found that teachers had considerable influence on children's inquiry activity. Green and Harker (1982) pointed out that the role of the teacher is to facilitate the children's interaction with text. Dillon (1988) and Lindfors (1980)

suggested that teachers should encourage student questioning, wait for questions and welcome them when they come. Dillon (1988) noted that children do not question because of systemic conditions: the goals of education, the structure of school, relationships between adults and children and socialization. Good et al. (1987) indicated that if the environment is appropriate and the adults in the environment are open to change, knowledgeable and supportive, systemic conditions can be overcome.

Although a variety of teacher verbal and non-verbal behaviours may facilitate or inhibit children's inquiry of text, this discussion of the teacher as a factor in the variability in children's inquiry statements will only focus on those teacher actions related to two aspects of the interrogating text intervention, modeling and inviting direct and indirect interrogatives (Does anyone have any questions? Does anyone have any "I wonders"?). Because the intervention was not applied consistently, this discussion will consider the percentage of inquiry statements made for each story whether the teacher did no modeling or inviting (N), modeled (M), invited (I), or modeled and invited (M/I), interrogative statements. It is interesting to note in Table 12 that in stories for which the teacher did not model or invite interrogative statements (8 out of 24 stories), the children made fewer than 19% of all inquiry statements. In none of the stories in which the teacher neither modeled

nor invited interrogatives did children make more than 3.31% of all inquiry statements. Two of the stories for which the teacher did not model or invite interrogatives (Seeing Stick [Sti], and Wilfred Gordon MacDonald Partridge [WG]) occurred toward the end of the study and after the teacher had modeled and/or invited interrogatives for 13 other stories. Even so, these two stories evoked very low percentages of inquiry statements. The previous modeling and inviting did not appear to transfer to these stories. In this study the teacher modeled only indirect interrogatives and did not accompany the modeling with explicit instruction such as, "You could say, 'I wonder . . .'" Rosenthal, Zimmerman and Durning (1970) reported that such implicit teacher modeling of questions had less effect than explicit modeling on questioning activity of Grade 6 students.

Three stories in which the teacher modeled (Badger's Parting Gifts [Bad]) or invited (A Tiger Called Thomas [Tom]), Benjamin's 365 Birthdays [Ben]) also led to a low percentage of inquiry statements. Badger's Parting Gifts (Bad) was the first story in which the teacher used the intervention and she was visibly nervous about the intervention. She referred to her cue cards several times, presented the story in a mechanical fashion and commented at the end of the story that it was difficult to implement the intervention. The theme of the story, death, may also have influenced the number of inquiry statements. Although the

teacher made three invitations for interrogatives during a Tiger Called Thomas (Tom), there were few inquiry statements. During Benjamin's 365 Birthdays (Ben) the teacher made seven invitations. The children had previously heard the story and their inquiry statements appeared to be a simple recall of previous knowledge of the story. Many of their statements therefore were not classified as inquiry statements.

Whether the teacher modelled (M), invited (I) or modeled and invited (M/I) does not appear to be critical to the children's inquiry activity. What does appear to be important is that the teacher needed to take at least one of the three actions to encourage inquiry.

The number of times within each story that the teacher modeled and/or invited is also worthy of note. The frequencies for modeling and inviting varied from story to story and more modeling, inviting, or modeling and inviting did not necessarily lead to more inquiry statements.

Having considered the teacher's actions as part of the context of the children's interaction with narrative text, this discussion will now focus on the teacher's perspective regarding her actions. This discussion will consider results from the researcher/teacher interviews that relate to the teacher's story reading practices when she did not model (N), modeled (M), invited (I) or modeled and invited (M/I) inquiry of narrative text.

During the interviews the teacher contrasted two approaches to reading text to children. She referred to these approaches as the performance approach and the interaction approach.

Because of my theatre background I was very much into the performance model.

It made me realize how performance oriented I was before.

Because it's so easy to slip into just the performance model. You know, just the straight delivery of the story.

More interactive. That's what I would say because using the words interactive means there's more responsibility for the audience.

If they're being interactive and they're being invited into questioning and wondering . . . then it's more inviting.

I would just simply read it and they could sit there just as if they were watching a video type of thing you know, very non-interaction.

She referred to questioning in the performance approach as:

Me personally asking questions, questions that demand a yes/no answer or a response I already know the answer to.

Although she described a detached, teacher-centred approach to sharing a story, she recognized the existence of her feelings as well as those of the children.

I used to think of story time as a break almost for me, everybody would relax, and tone down and they certainly relaxed and toned down too.

I was really concerned with what I would sound like as the professional story reader.

I was interested in how they responded and whether they liked it and that kind of thing.

The teacher indicated that the performance approach occurred when she did not model or invite inquiry and the interactive approach occurred when she modeled, invited, or modeled and invited inquiry. Several categories that emerged from the data and that are relevant to this discussion are her description of the two approaches and the procedures that characterized each approach. In describing the two approaches she referred to the teacher's and the students' roles in each approach.

The teacher's description of the performance approach involved delivery, questioning and affect. She characterized delivery as one-sided and teacher-centred.

I was always interested in delivering a smooth story with lots of expression, lots of character development, and I was really concerned with what I would sound like as the professional story reader.

You know, having the proper intonation for the characters and delivering the story with great gusto, vigor and energy.

I think there are occasions when just rolling along through the story, that's warranted.

In describing the performance approach the teacher referred to her role and the students' role in the

performance. As is characteristic of most performances, the audience:

adopts a passive listener mode

nod nods and off we go to something else

could just sit there as if watching a video type of thing - very non-interaction.

Although the teacher characterized her performance approach as totally one-sided, Table 12 reveals that this is not entirely true. Even using the performance approach, which coincides with N in Table 12, the children did make some inquiry statements, albeit fewer than in the interactive approach.

Although the teacher described the interactive approach using a framework similar to the framework she used to describe the performance approach, the terms she used changed. Rather than refer to her presentation of the story as delivery, she labelled it as sharing.

I think that is sharing because you're sharing information. And when presenting is back to the delivery. Using the words interactive means there's more of a responsibility for the audience, there's more of a sharing.

Her description of questioning also changed from a teacher directed progression through the story to questioning that involved both teacher and student.

I think the difference is the style and strategy of stopping to elicit questioning and the "I wonders."

Concerns about affect also differed in the performance and the interactive approach.

When you're doing this you can't go into third gear, you have to really be astute and aware of what they are doing and how they are reacting.

That's what I would say because using the words interactive means there's more of a responsibility for the audience, there's more of a sharing.

The teacher's view of the children's role in the interactive approach changed considerably from her view of the children's role in the performance approach. She stressed that the interaction was not only between the teacher and the student, it was also among the students. Instead of adopting a passive listener mode, the children were involved in questioning that accompanied the story.

I certainly didn't get the interaction between children that I'm getting now and the depth of questioning.

I am allowing them into the process more so than I did before.

If they're being interactive and they're being invited into questioning and wondering about elements of the story then they're, it's more inviting.

The teacher viewed the two major emphases of the interactive approach as thinking and reflecting. She addressed the outcomes, the processes, and the objects of thinking and reflecting.

Well, I think that's pretty positive that going this route can create some thinking and some material that didn't exist before.

I think it's looking at elements of the story that might pull them more into critical thinking.

We're asking them to do some pretty critical thinking. We're asking them to do it in a fairly public place in front of each other.

It's the thoughtful part of the day when people can reflect on what they would do in a situation, if they fell in a well or you know, that kind of thing.

It's an opportunity for them to reflect on different things that have gone on in their lives or to compare it to something in their life.

The teacher viewed the roles of both teacher and student as differing from one approach to the other. In the performance approach the children were regarded as passive receivers of the story. In the interactive approach the children were viewed as active participants in thinking about, reflecting on and sharing in the construction of knowledge.

In discussing the two approaches, the teacher's emphasis on the role of the teacher and the student shifted. When describing the performance approach she spoke more about the teacher's than the students' role. When she spoke about the interactive approach she made considerably greater reference to the student's role than she did when discussing the students' role in the performance approach. This shift in emphasis is also reflected in the percentage of inquiry

statements made by the children in stories in which the teacher employed the interactive approach. Table 12 indicates that the interactive approach (M, I, M/I) was, in fact, more interactive. Apart from three exceptions the children made more inquiry statements during the interactive approach. The three exceptions involved a story that the children had already heard (Ben), a story with a sophisticated concept (Bad), and a story about a child dealing with an everyday problem (Tom).

As previously indicated the teacher followed several procedures when she did not model or invite (N), modeled (M), invited (I), or modeled and invited (M/I). When she was not modelling and inviting inquiries (N), the teacher read the story "with great gusto, vigor and energy," asked questions of the students, but did not model asking questions of the text either explicitly or implicitly. When the teacher modeled questioning (M), her modeling was implicit and she modeled indirect interrogatives. When the teacher invited the children to inquire (I) she said, "Does anyone have any 'I wonders'?" or "Is there anything you're wondering about?". When the teacher modeled and invited (M/I), she did both at some point in the story but not together. As stated earlier, the teacher's actions were analyzed and discussed in light of whether or not she modeled and/or invited inquiry. Other teacher actions that

may have encouraged the children's inquiry statements were not included in the analysis.

During the interview the teacher indicated procedures that she believed to be important and had attempted to implement as a way of encouraging the children's interaction with narrative text. She referred to procedures and guidelines involved in reading the story, questioning and encouraging thinking. She also addressed modeling and inviting.

### Reading the story

The teacher stressed the need for flexibility and openness when reading to the children and encouraging their inquiries.

I think the key is not to be didactic so that you're not so clinical that they think, "This is a lesson, starts here, ends here, etc., etc."

You really are trying to hear what they're saying and relate to that as well as keep on track with the story and everything else. So that you know, you're sort of operating at a lot of different levels when you're doing it so it can be a pretty exhausting experience.

Well now it's time . . . to get a little more involved in the audience response which is the student.

You have to trust the children because they will take you in a direction that's natural. I don't think I start off with a distinct direction in mind. A lot of it has to do with how I'm feeling personally and how I feel they're responding.

### Questioning

In her discussion of questioning the teacher outlined guidelines to consider in moving from the type of questioning described in the performance approach to the questioning involved in the interactive approach.

I give them the latitude of questioning each other and commenting to each other.

I'm not just asking. I am finally moving away from the whole thing of asking questions. Me personally asking questions that demand a yes/no answer or a response that I already know the answer to.

I think the difference is the style and strategy of stopping to elicit questioning and the I wonders.

### Thinking

The teacher was very concerned that the children should be involved in thinking about characters, actions and events of the story she was sharing.

I think it's looking at elements of the story that might pull them into critical thinking.

Usually it's something that has happened in the story that involves some kind of projection on their part. It might be a linear sort of thing, "What do you think might happen next?", or it might be an emotional thing where you're trying to make them think the way the character in the story is thinking.

They know the direction that we're going to go and that there will be time for thoughtful responses.

We're asking them to do some pretty critical thinking.

### Modeling

Although modeling was one component of the intervention strategy, the teacher made only two references to modeling during the interviews. She referred to her realization of the power of effective modeling and modeling of things other than interrogative statements.

The day when Shawn said, "I wonder", I thought, "Oh". It was really exciting because it was a major breakthrough because you realized that the teacher modeling method of teaching, that direction could actually work.

So if I have enthusiasm for something I think I transfer that via my voice and by showing that I am intrigued etc. etc.

### Inviting

The teacher also referred to inviting the children to take part in the process of inquiry about text. As in the case of modeling the teacher made only two references to invitations, although this was the second component of the intervention.

I think the difference is the style and strategy of stopping to elicit questioning and the I wonder and that kind of thing.

If they're being interactive and they're being invited into questioning and wondering about elements of the story, then they're, it's more inviting.

The teacher reflected these procedures and guidelines in her story reading practices to varying degrees. Because her actions are a part of the environment, it can be assumed

they had some influence on the way the children interacted with the text and therefore the context and nature of their inquiry statements.

The previous discussion has considered the children's inquiry statements in the C/T context and the role of the children, the text and the teacher in the children's interaction with narrative text in the C/T context. The following discussion will consider the children's inquiry statements in the four other contexts.

Will subjects across ability levels inquiry about text in the S/S, S/B, S/A and S contexts?

S/S - the subjects in pairs read the products from writers workshop to each other

S/B - the subjects are read to by Grade 7 student buddies

S/A - the subjects are individually read to by an adult volunteer

S - the subjects read to themselves

The discussion of results arising from data analysis has focused on the C/T context for two reasons. First, the large number of inquiry statements in the C/T context. Second, there were generally far fewer inquiry statements made by the subjects in the other four contexts.

It should be noted that the C/T context involved 24 stories. The eight S/S contexts involved reading from one

to ten journal entries. In the nine S/B contexts, the Grade 7 students read between three and five stories to each of the six children. During each of the six S/A contexts the adult helper read one story. In the ten S contexts each child read from three to twelve stories. The narrative texts used in the C/T and S/A contexts were classified in book lists as read-aloud or picture books. The books used in the S/B and S contexts included easy-to-read books, song books, read-aloud and picture books. Although differences in the quantity and quality of the materials used in the five contexts makes definitive comparisons between the five contexts difficult, the results are informative.

Table 13 contains the number of inquiry statements for each child in each context. All subjects made more inquiry statements in the C/T context than any of the other four contexts; however, there was less difference between the number of inquiry statements made by Shawn in the C/T and S/B context than there was for all other subjects. All subjects made more inquiry statements in the S/B than S/S, S/A and S contexts. Stacey's higher rate of inquiry statements in the S/A context in comparison to the other subjects in the same context resulted primarily from affective responses (laughter, gasps, groans). In the S context both Jean and Shawn occasionally spoke to imaginary listeners and their inquiry statements were directed to these listeners.

Table 13

Frequency of Inquiry Statements of Six Subjects for Five Contexts

Subject	Context				
	C/T	S/S	S/B	S/A	S
Brad	312	3	4	0	0
Stacey	190	2	19	14	3
Elizabeth	86	1	10	3	3
Jean	105	2	8	1	9
David	144	5	24	0	0
Shawn	71	8	30	0	5

Note. C/T = teacher reads to class  
 S/S = subjects read to each other  
 S/B = subjects read to by Grade 7 student buddies  
 S/A = subjects read to by adult helper  
 S = subjects read to themselves

In summary, the results for research question one – do children inquire about narrative text? – reveal that the children made inquiry statements in the C/T context and there was variability in the number of inquiry statements made by each child and for each story. This variability occurred for each child and among children, for each story and among stories, and can be attributed to an interaction

of student, text and teacher factors. The children made fewer inquiry statements in the S/S, S/B, S/A, and S contexts. Results from the five contexts suggest opportunities for reflection and further research. Does the social environment of the C/T context contribute to higher rates of inquiry statements? To what degree do the actions of the reader influence the children's inquiry in a variety of contexts? To what extent does the socialization of children to specific behaviour patterns in various school activities influence their inquiry activity? Does Shawn's relatively large number of inquiry statements in the S/B context reflect the fact that he selected the texts and therefore they often focused on his interest - natural science? In only one other instance did a child choose expository text (David), and natural science did not appear to be David's main interest.

#### Nature of the Inquiry

2. If the subjects engage in inquiry of narrative text what will be the nature of the inquiry?

Although the initial intent of research question two was to determine the nature (form, function, content) of the children's inquiry statements, the subsequent analysis expanded beyond the nature of the inquiry statements as another dimension emerged from the data, the context of the inquiry statements. The context refers to the cognitive, social and textual environment in which the statement

occurred. The cognitive environment refers to the thinking processes exhibited by the statement. The social environment refers to whether the inquiry statement was evoked by the teacher, the text or another student. The textual environment refers to whether the inquiry statement refers to information that is text based, beyond text, or unrelated to text. The answer to research question two combines the context and nature of the inquiry statements and refers to these two dimensions as the quality of the inquiry statements. To address research question two the discussion will focus on the context (processing, evocation, referent) and nature (form, content, function) of the children's inquiry statements in the C/T context. Examples of inquiry statements will include the name of the student. A rationale for the identification of the statement as an inquiry statement will be provided by the code for the inquiry skill the statement represents - generating (GEN), organizing (ORG), judging (JU), affect (AFF), or the designation of the statement as an interrogative statement - interrogative direct open (I-D-O), interrogative direct closed (I-D-C), indirect interrogative (I-I).

### Processing

The category referred to as processing represents the cognitive environment of the statement and refers to the thinking skills that can be inferred from the inquiry

statement. The processing quality of the children's inquiry statements has already been discussed at considerable length (see pp. 104-109) in answering one aspect of research question one (Did the children organize, generate, judge or respond affectively to knowledge and information?). A review of the main points covered in that discussion will suffice to describe the processing quality of the inquiry statements.

1. Children's inquiry statements involved organizing, generating, judging and responding affectively to knowledge and information.
2. Although there was variability in the frequency of the use of particular inquiry skills from child to child and across stories, children generated information to a greater degree than they organized, judged or responded affectively to knowledge and information.

#### Evocation

A variety of factors evoked the children's inquiry statements. These include text, other children and the teacher.

Text. Text evoked inquiry statements by David, Ryan, Elizabeth, Brad and Shawn during the reading of Yellow and Pink.

<i>Yellow and Pink lying side by side on a newspaper.</i>	illustration	
Hello man.	David	GEN
<i>It was hot and quiet and they were both wondering.</i>	text	
Wondering what?	David	I-D-O
<i>"Who are we?"</i>	text	
I know who they are.	Elizabeth	GEN
<i>"And wouldn't we know who made us since we had to be there when we got made."</i>	text	
No.	Shawn	JU
<i>"That's preposterous."</i>	text	
Deposterous?	Brad	I-D-O
<i>. . . lots of unusual things could happen why not us?"</i>	text	
That was funny.	Brad	JU
<i>"But you and I are so different," said Pink.</i>	text	
<i>"How come?"</i>		
Because he got a fat stick and he got a thin . . .	Ryan	GEN
<i>"Who is this guy?" Yellow whispered in Pink's ear.</i>	text	
<i>Pink didn't know.</i>		
I know. It was the guy that made them.	Ryan	GEN

Text evoked inquiry statements by all of the children at some point during the other 23 stories, although Lindsay and Tessa rarely made statements evoked by text.

<i>Alexander looking sad with pockets turned inside out.</i>	illustration
--	--------------

Help please. I have no money.	Shawn	GEN
<i>Josh could see that if his face never changed back, life would be very awkward.</i>	text	
If the wind changes back then his face will go back to normal.	Brad	GEN
<i>Man climbing in tree with colored hats stacked under the tree.</i>	illustration	
This is different because the other one it had, he had more of them, not just three, he had six of them or 12 or 10 I think.	Stacey	ORG
. . . <i>they would run and scream or chase him with a broom.</i>	text	
That's not nice.	Lindsay	JU
<i>Badger and Frog skating. Frog with no skates.</i>	illustration	
That would hurt frog's feet like that because he doesn't have any skates on.	Jean	GEN
<i>Gorillas, girl and bear dancing around a fire.</i>	illustration	
Shawn was right. The bear and the girl danced with the monkeys and bang their chests.	Ryan	JU

Table 14 reveals that several children accounted for a large portion of statements evoked by text. Brad made 24.93% of the statements evoked by text. There were only two stories, Tillie and the Wall and Ernest and Celestine,

in which Brad did not make a statement evoked by text. In Wilfred Gordon MacDonald Partridge, Yellow and Pink, Come Away from the Water Shirley and Badger's Parting Gifts, Brad made approximately 33% of the statements evoked by text. During Abdul Gasazi he made five of the seven statements evoked by text. Stacey made 18.90% of the statements evoked by text and Ryan made 14.52% of these statements. Tessa (1.10%) and Lindsay (1.92%) made the fewest statements evoked by text. Tessa made statements evoked by text in only two stories and Lindsay made such statements in only five stories.

These results can be explained in several ways. First, the children who made the greatest number of inquiry statements made the greatest number of inquiry statements evoked by text, and the children who made very few inquiry statements also made few inquiry statements evoked by text. Second, the children who made the greatest number of inquiry statements evoked by text appeared to be the most confident children in the group and therefore willing to take risks. The two children who made the fewest inquiry statements evoked by text appeared to be the least confident children in the group. Third, it appears there may be differences in the degree to which a reader (listener) actually carries on a dialogue with the author and the text, there are a variety of factors which influence this dialogue, and confidence and self-awareness may be one of those factors.

Statements evoked by text occurred at various points during the portions of interactions that focused on one page or a series of pages, but the most intriguing of the statements evoked by text are those that occurred immediately following a piece of text. Of the 365 statements evoked by text, 98 occurred immediately following a portion of text. The statements often involved observations (OBS) of illustrations, reading (R) of text and recall (REC) of information, as well as generating (GEN), judging (JU), organizing (ORG), affect (AFF) and interrogatives (I-D-O, I-D-C, I-I).

<i>Anthony told me to use the dollar to go downtown to a store and buy a new face. Anthony stinks.</i>	text		
That's not nice.	Stacey	JU	
<i>First he had on his own checked cap, then a bunch of gray caps, then a bunch of brown caps, then a bunch of blue caps, and, on the very top, a bunch of red caps.</i>	text		
Pink.	Elizabeth	OBS	
But they're yellow caps not gray caps.	Stacey	OBS	
And brown.	Shawn	OBS	
<i>My grandmother would threaten it with a hoe.</i>	text		
What's threaten?	David	I-D-O	
<i>A Gift, Albert, Sunshine and Moonbeam screamed.</i>	text		
They wanted to go to Playland.	Ryan	GEN	

<i>He was afraid he might never find Fritz again.</i>	text		
He went into the garden.	Brad		GEN
<i>Who are we?</i>	text		
I know who they are.	Elizabeth		GEN

Brad accounted for 26.53% of these statements, Ryan 20.40% of these statements and Stacey and David each accounted for approximately 16% of these statements.

**Children.** Children's inquiry statements were also evoked by other children. Although it was only David's inquiry that was evoked by another student for Yellow and Pink, all children except Mark and Tessa made inquiry statements that were evoked by other children during the other 23 stories. These evocations involved: one student questioning another student; elaborating on, correcting, confirming or disagreeing with the statement of another student; requesting or providing an explanation or propositional knowledge from another student.

They look like robots.	Ryan		GEN
They aren't. They're people.	David		JU
I know what a hoe is.	Ryan		
It means scarey.	Jean		GEN
That might be somebody else's.	Brad		
Yeah.	Stacey		JU
I wonder if he would, I wonder if he would climb one of those bushes.	Lindsay		

That was my question.	Ryan	ORG
I wonder if the mouse might be walking around out in the snow and the bear might be really cold and the bear might see him through a, his window out in the cold and he might get his warm stuff out and come out and walk around.	Jean	
No, she's wearing, it's a girl.	David	JU
I wonder where the alligator went.	Jean	
The alligator is maybe hiding somewhere and then . . .	Stacey	GEN

Table 14 reveals that of the 1149 inquiry statements 169 were evoked by other students. The majority of these statements involved David, Stacey, Ryan and Brad. Tessa made no statements evoked by other students and Mark made only one. Of the statements evoked by students, many of the exchanges involved Ryan and Brad (13.60%), David and Brad (11.83%) and Stacey and Brad (11.24%). In these exchanges Brad evoked more responses from David and Stacey, whereas Ryan evoked more responses from Brad. For all the children the statements evoked by other children involved answering children's questions, disagreeing with or confirming a statement and elaborating on a statement. The number of inquiry statements evoked by another child's statements reflects the degree to which the children listened to other

Table 14

Percentage of Inquiry Statements for Text and Student Evocations

Subject	Text		Student	
	Frequency	%	Frequency	%
Elizabeth	28	7.67	7	4.14
Jean	32	8.77	16	9.47
David	43	11.78	25	14.79
Shawn	22	6.03	15	8.88
Lindsay	7	1.92	5	2.96
Stacey	69	18.90	26	15.38
Ryan	53	14.52	34	20.12
Brad	91	24.93	40	23.67
Tessa	4	1.10	0	0
Mark	16	4.38	1	.59
Total	365		169	

children as well as the teacher and the influence of the social context in the children's interaction with the narrative text.

It was not necessary for the teacher to initiate the inquiry. The children did so on their own initiative. And what constituted the substance of their inquiry? Was it story trivia and facts? On the contrary, the children's inquiry statements evoked by text and other students during Yellow and Pink focused on the nature of the characters and

objects, what the characters were thinking, one's presence at one's own creation, how the characters were created, how differences in characters arose and the motives of characters. Although these topics evoked inquiry statements for Yellow and Pink, they are representative of the variety and depth of inquiries that were evoked by text in other stories. Several of those stories are listed below.

parents' belief of what their children tell them.	Att
sadness and loneliness.	Att
what you should do if you're lost	Bar
the relationship between age and birthdays.	Ben
a child with no parents.	Ben
the difference between fantasy and reality.	Shi
fate of a character.	Shi
the results of doing something dangerous.	VL
panic at being trapped	VL
the nature of memories	WG
safety	MM
obedience to parents	MM

**Teacher.** Naturally, Jodie's direct interrogatives usually evoked responses by students. However, in some instances her indirect interrogatives and her statements

that were not interrogatives also evoked responses by students. Two statements by Ryan were evoked by declarative statements Jodie made as she read Yellow and Pink.

Interesting. And look at how they've drawn the figures here with pen and pencil. They look like robots	Jodie	
	Ryan	ORG
That's kind of a mystery. Someone made them and put them on there.	Jodie	
	Ryan	GEN

Jodie made only two indirect interrogative statements during the story, and these did not evoke statements by any of the children. During the other 23 stories Jodie's non-interrogative statements also evoked statements by the students. In the majority of cases the student statements were non-interrogative or indirect interrogative statements.

That's interesting because when I had my dog he didn't, his face never changed, most of the time he looked the same.	Jodie	
No, it's the boy whose face . . .	Jean	JU
Oh yes. The bottom one he's wearing and then he's balancing the rest. And I think he owns them because he's wanting to sell them.	Jodie	
That would be hard.	Ryan	JU
Yes, because he has too many to wear.	Jean	GEN
Let's look! Oooh! That surprised me.	Jodie	
Uh! Uh! That's not real!	Lindsay	JU

Yeah! He depends on humans to wind him up. And his friends.	Jodie  Elizabeth	  GEN
Oh, I see. This is the bottom of the boat. And when the Dream Child's in it then they, it flies around.	Jodie  Brad	  GEN

Table 15 summarizes the factors that evoked the children's inquiry statements. Table 15 reveals that children's inquiry statements were evoked by text as often as by the teacher's direct questions (T-D). The percentage of student-initiated inquiry statements (64.58%), i.e. inquiry statements that do not result from either direct (T-D) or indirect (T-I) teacher questions, is greater than the percentage of inquiry statements evoked by the teacher's direct and indirect questions (34.64%). Ambiguous evocations were those inquiry statements where it was unclear who or what evoked the statements.

#### Referent

The referent for all inquiry statements in Yellow and Pink and approximately 99% of the inquiry statements from the other 23 stories was beyond text (BTX). Because inquiry statements involved searching for and constructing knowledge, the children combined knowledge from text and their prior knowledge in order to construct new knowledge. One criterion of an inquiry statement was that the referent

Table 15

Evocations for Inquiry Statements

Evocations	Frequency	%
teacher	666	52.74
T	208	18.10
T-D	361	31.42
T-I	37	3.22
student	169	14.71
text	365	31.77
ambiguous	9	.78

Note. T = teacher's declarative statements  
T-D = teacher's direct interrogative statement  
T-I = teacher's indirect interrogative statement

was beyond text (BTX). In a few instances statements with a text-based referent (TXB) were identified as inquiry statements. In these cases information from text was used as evidence to explain, disagree with or confirm a statement in the text or a statement made by the teacher or another student.

The context of the inquiry statement is the cognitive, social and textual environment in which the children's inquiry statements occurred. The cognitive processing

involved in the children's statements included generating, judging, organizing and responding affectively to knowledge and information. The social environment that evoked the children's inquiry statements included the text, other children, and the teacher. The textual environment of their inquiry statements was almost exclusively beyond text. The nature of the children's inquiry statements involves the form, content and function of their statements.

#### Form

Hunkins (1976) stressed that student questions are indicative of effective learning and student involvement. The transcript of Yellow and Pink included a great deal of student involvement. However, an analysis of the dialogue indicated that the majority of the children's statements identified as inquiry statements were not interrogatives. Their inquiry statements were declaratives (D) and single word responses (S).

They look like robots.	Ryan	ORG	D
I know. It was the guy that made them.	Brad	GEN	D
And he wouldn't just left them.	Tessa	GEN	D
What do you think of that explanation?	Jodie		
Nah!	David	JU	S

"Sand blowing in the wind might have helped with the smoothing."	text			
No.	Jean	JU		S
(Are you) Sure?	Jodie			
Yes.	Stacey	JU		S

Only four out of 54 inquiry statements in Yellow and Pink were interrogatives, and David asked three of them.

Wondering what?	David			I-D-O
How do you know?	David			I-D-O
Deposterous?	Brad			I-D-O
Don't you know what it is Brad?	David			I-D-C

It would be expected that children's inquiry statements evoked by the teacher's direct and indirect interrogatives would be statements other than interrogatives. However, even when the children's statements were evoked by non-interrogative statements in text and the teacher's and other children's non-interrogative statements, the majority of their statements were not interrogative statements. Results from all 24 stories indicated that the majority of the children's statements identified as inquiry statements were not interrogatives. They were declarative (D), single word response (S), non-word response (NWRES) and exclamatory (E) statements.

What kind of a monster he is.	Jodie			
A friendly monster probably because he looks friendly.	Jean	GEN		D

And he can lift weights cause he's so strong.	Brad	GEN	D
Oh you mean bits of lunch or things they've left perhaps.	Jodie		
Yeah.	David	JU	S
Buttons like how old he turns.	Erad		
Yeah.	David	JU	S
<i>Why don't you go and play with those children?</i>	text		
Uh! Oh!	Ryan	AFF	NWRES
<i>Her candle dropped and sputtered out.</i>	text		
Gasp!	Ryan	AFF	NWRES
It's a pirate ship.	Stacey		
Oh!	Ryan	AFF	E
. . . and told her all his secrets.	text		
Whoa! He must have a lot!	David	GEN	E

Although they represented only 11% of the inquiry statements, there was at least one interrogative statement in all but one story, Tillie and the Wall (Til). These interrogative statements were interrogative direct open (I-D-O, answer belongs to an essentially infinite set of possibilities not specified in the question), interrogative direct closed (I-D-C, yes/no questions) or interrogative indirect (I-I, declaratives which contain an embedded partial interrogative phrase).

Where does it say 166?	Stacey	I-D-O
Who does?	Ryan	I-D-O
What red handle?	Brad	I-D-O
And do you know what it means?	Stacey	I-D-C
Will he make a mess in the school?	Brad	I-D-C
Doesn't Benjamin have parents or anything?	Brad	I-D-C
I wonder if he's scared.	Lindsay	I-I
I wonder if he gets a stick.	Shawn	I-I
I wonder if she's going to go up in the attic and take care of the monster and tie him up and sell him to the zoo.	Brad	I-I

Table 16 indicates the wide difference between children's inquiry statements that were interrogatives and those that were not interrogatives. It is important to keep in mind that the children's indirect interrogative statements only occurred after the teacher began to model and invite indirect interrogatives, except for one indirect interrogative in When the Wind Changed. The children made indirect interrogatives in the Seeing Stick (1) and Wilfred Gordon MacDonald Partridge (2), although the teacher neither modelled nor invited indirect interrogatives for these two stories. At the time the teacher had modeled and invited indirect interrogatives for 12 stories (WGM) and 15 stories (Sti). During The Very Last First Time the teacher modeled but did not invite indirect interrogatives. The children

Table 16

Frequency of Interrogative and Non-interrogative Inquiry Statements.

Form	Frequency	%
Interrogatives	126	10.96
Direct Open	58	5.04
Direct Closed	16	1.39
Indirect	52	4.53
Noninterrogatives	1023	89.04

made four indirect interrogative statements during the story. The remaining 44 indirect interrogatives occurred in stories where the teacher invited them. Thirty-four of those indirect interrogatives were the direct result of invitations made by the teacher (Do you have any "I wonders"?). Only ten occurred spontaneously. In some cases the teacher invited indirect interrogatives but none were made. The children's direct open and direct closed interrogatives all occurred spontaneously.

Although during three stories the teacher invited direct interrogatives 12 times (Does anyone have any questions?) the children did not make any direct interrogative statements when invited to do so. They appeared to have no idea what was expected of them. An

alternative hypothesis is that the children perceived the teacher's invitation as an assessment strategy rather than as an invitation to inquire. The data indicate that the children did know how to ask questions as they inquired about narrative texts. Even though these questions were very limited, the children made more direct than indirect interrogatives even though the teacher invited and modeled indirect interrogatives. Admonitions that children need to be taught how to ask questions in school are valid if one accepts two notions: first, children know how to question but they do not know how to question in school settings; second, questioning is the only indication that children are involved in their learning and pursuing the ideas and topics that interest them. Reviews of studies conducted over the past 100 years have focused on the lack of children's questioning in school (Fahey, 1942; Gall, 1970; Hoetker & Ahlbrand, 1969). The literature has also focused on programs for teaching children to question in school (Cheeves, 1973; Denny, 1972; Dillon, 1983; Sadker & Cooper, 1974) and approaches for encouraging children to question in school (Dillon, 1988; Hunkins, 1976; Lindfors, 1980). The data from this study suggest the need to consider whether there is a misplaced focus on children's questions, while other statements that indicate involvement in learning are overlooked. These children were overtly inquiring about

narrative text, but the manifestations of their inquiries, to a great extent, were not questions.

The form of the questions the children asked was compared with results from previous studies of questions. Berlyne and Frommer (1966) found that six year olds asked more open (who, what, when, where, why, how) questions than closed (yes/no) questions. On the other hand, Van Hekken and Roelofsen (1981) found that children in Grades 2-4 used closed questions frequently. During the story Yellow and Pink David and Brad asked three open questions and David asked one closed question.

Wondering what?	David	I-D-O
How do you know?	David	I-D-O
Deposterous?	Brad	I-D-O
Don't you know what it is Brad?	David	I-D-C

Throughout the remaining 23 stories the children asked more open than closed questions. These children used closed questions infrequently. The results of this study are more similar to the findings of Berlyne and Frommer than Van Hekken and Roelofsen. Berlyne and Frommer used manipulated text for their study, while Van Hekken and Roelofson recorded children's questions in a play setting.

The children in this study used specific interrogatives (who, what, where, when, how, why) more frequently than auxiliary forms (is, could, do, will). This is the same

finding presented by Meyer and Shane (1973) and Piaget (1926).

Table 17 lists the frequencies and percentages of various forms of direct interrogatives made by the children. Of the 74 direct interrogatives, 22.97% began with auxiliary forms while 52.71% of the interrogatives began with what, where, how, why and who. No interrogatives began with when. Several direct interrogatives were similar to interrogatives with auxiliaries but contained no auxiliaries.

It has corders?	Brad
He asked the chickens?	Ryan

auxiliaries

<u>Are</u> all those just his?	Jean
--------------------------------	------

<u>is</u> there a type of flower that's a black flower that could be found in Canada or something like that?	Jean
---	------

<u>Will</u> he make a mess in the school?	Brad
--	------

<u>Would</u> you like to go down there Mrs. Esch?	Shawn
--	-------

<u>Doesn't</u> Benjamin have any parents or anything?	Brad
--	------

<u>Don't</u> you know what it is Brad?	David
---	-------

Table 17

Frequency of Forms for Direct Interrogatives

Form	Frequency	%
auxiliaries	17	22.97
what	18	24.32
where	9	12.17
how	7	9.46
why	4	5.41
who	1	1.35
when	0	0.0
echo	18	24.32

specific interrogatives

<u>Why</u> don't they have the other part of the book, the other part of the book.	Mark
<u>Why</u> doesn't he play on the porch.	Mark
<u>Who</u> does?	Ryan
<u>Which</u> one is the mole?	Jean
<u>Where's</u> the hay?	Stacey
<u>Where's</u> the dog?	Brad
<u>What</u> is a bob-white?	Shawn
<u>What</u> is he hanging on Mrs. Esch?	Ryan
But <u>how</u> can she hold her breath that long?	Ryan

How does he get it up  
there?

Mark

Meyer and Shane (1973) found that children from grades 1-12 asked more how, why and what questions, while Van Hekken and Roelofsen (1981) found that children asked more what, where and how questions than why questions. The children in this study asked more what questions (24.32%) than where (12.17%), how (9.46%), why (5.41%) or who questions (1.35%). As in studies by Meyer and Shane and Van Hekken and Roelofsen, the children did not ask when questions. This suggests 6 and 7-year-olds' lack of understanding and concern for the concept of time. Children appear to be more concerned with the here and now. Given that there were 24 stories and only 39 questions beginning with specific interrogatives, there were only one or two of these forms for most of the stories. For Morgan the Magnificent and When I was Young in the Mountains there were four what questions each and four where questions for Come Away From the Water Shirley. The end of this story is ambiguous and led to questions about the location of the dog, the crown and the gold.

The form of the children's indirect interrogatives was more consistent. Of 52 indirect interrogatives 40 (76.92%) began with "I wonder if," eight "I wonder what," and two each "I wonder where" and "I wonder why." The teacher's invitations were labelled "I wonders", and did not include

if or specific interrogatives. A comparison between the form of the teacher's models of indirect interrogatives and the children's forms of indirect interrogatives raises several questions.

Table 18 indicates the large discrepancy between the indirect interrogatives implicitly modeled by the teacher and those spoken by the children. The majority of the teacher's 45 models included what, whereas 40 out of 52 of the indirect interrogatives uttered by the children began "I wonder if". Did the teacher's models serve the intended purpose of instructing the students in asking indirect interrogatives, since the children did not follow the teacher's models? If the models provided by the teacher were not a critical feature in encouraging the children to ask indirect interrogatives, would the teacher's invitations alone have been as effective? A more critical consideration is the appropriateness of models provided for purposes of instruction. The indirect interrogatives made by the children usually presented an initial hypothesis.

I wonder if he would climb one of those bushes.

I wonder if the bear is going to be the mouse's friend.

I wonder if there's going to be an alligator under his bed.

I wonder if she's going to keep him for a pet.

Berlyne and Frommer (1966) pointed out that young children ask questions that are based on an initial hypothesis

Table 18

Percentage of Forms for Indirect Interrogatives for Children and Teacher

	%					
	if	what	where	why	how	who
teacher	22.23	57.78	2.22	8.88	6.66	2.23
children	76.92	15.38	3.85	3.85	0	0

because it is easier than asking a question based on an initial hypothesis and subsequent action on that hypothesis.

1. What colour is the wagon?
2. Is the wagon red?

Question one requires only one hypothesis (the wagon is colored), whereas question two requires that same hypothesis and action on that hypothesis (the wagon is colored and that color is red).

The majority of the teacher's models involved an initial hypothesis and action on that hypothesis.

I wonder why that should make a difference.

I wonder what she can do to get out of that problem.

I wonder what's the matter with the baby.

I wonder what that would feel like, going down in the dark, not knowing.

It may be the case that the models supplied by the teacher were beyond the capabilities of the students and therefore inappropriate. If modeling is to be used as an effective strategy for instruction, it is important that the models provided reflect knowledge and understanding of children's capabilities, their zone of proximal development (Vygotsky, 1986) and instruction that will facilitate continued growth.

An interesting form of questions that the children in this study asked could be referred to as echo questions. These questions repeated (echoed) words or phrases from text or a previous speaker, followed the initial word or phrase (immediately), were spoken with interrogative intonation and did not contain specific interrogatives or auxiliaries.

<i>That's preposterous.</i>	text
Preposterous?	Brad
<i>"So do I," said Thomas.</i>	text
Thomas?	David
Our story today is <u>The</u>	Title
<u>Seeing Stick</u> .	
The seeing stick?	Ryan
All the friends are coming	Jodie
over and relatives and	
putting their toys on the	
tree.	
On the tree?	David

These echo questions appeared to express surprise at a concept (putting toys on a Christmas tree) and requested clarification of the concept.



I know it was the guy that made them.	Ryan	GEN	ID-CHAR
It is I know.	Stacey	JU	ID-CHAR
What is he going to do with them?	Jodie		
He's probably going to keep them and use them like he did.	Brad	GEN	INT-CHAR
They're going to give them, if he has kids, he's going to give them to them.	David	GEN	INT-CHAR
What do you think Elizabeth? Where are those two figures going?	Jodie		
Home.	Ryan	GEN	LOC-CHAR
Back to his house I guess.	Elizabeth	GEN	LOC-CHAR
Where they got made from.	Brad	GEN	LOC-CHAR

The children also made inquiry statements about the properties of events (PR-EV) and descriptions of objects (DES-OB).

Maybe no one made them.	Ryan	GEN	PR-EV
What do you think, Lindsay?	Jodie		
Well, the little the skinny guy I think the branch just came down and then the man just made him with that little stick.	Lindsay	GEN	PR-EV
Goodness. Does this look like it's going to be a happy story?	Jodie		
No.	Elizabeth	GEN	DES-OB
It looks like it's going to be a sad story.	Brad	GEN	DES-OB

The children noticed comparisons and explored cause-effect relationships (REL).

<i>"But you and I are so different," said Pink.</i>	text		
<i>"How come?"</i>			
Because he got a fat stick and he got a thin . . .	Ryan	GEN	REL
<i>"Sand blowing in the wind might have helped with the smoothing."</i>	text		
Nah! It didn't happen . . .	David	JU	REL
Shaped like a wire, like a telephone wire.	Ryan	ORG	REL
They look like robots.	Ryan	ORG	REL

One of the most interesting inquiry statements was made by David. He wondered about what the characters were wondering about (OB-ACT).

Wondering what?	David	I-D-O	OB-ACT
-----------------	-------	-------	--------

Throughout the 24 stories the same subject matter formed the content of the children's inquiry statements.

The content of the children's inquiry statements are listed in Table 19. The subject matter of the majority of the statements was characters, comparisons and cause-effect relationships, and objects. The children inquired about a monster, a baby who could lift weights, an escaped hamster, a bear having a birthday, a girl who imagined she was a pirate, and a boy who made strange faces. They compared

Table 19

Frequency and Percentage of Content of Inquiry Statements

Content	Frequency	%
characters	588	50.69
relationships	256	22.07
objects	197	16.98
words	58	5.00
actions	25	2.16
events	20	1.72
locations	16	1.38

Note. The total for content of inquiry statements (1160) is greater than the number of inquiry statements because specific inquiry statements may have more than one content.

robots and people, monsters and pillows, cats and dogs, and the North Pole and Victoria. They realized possible causes and outcomes of actions such as: the likelihood of falling from a high wire when you've only practised walking on a roof; how someone knows who you are, even when you're wearing a costume; why a child listening to a ghost story would be frightened; and why an emperor would cry. They inquired about objects including kiwi fruit, a beware of baby sign, the location of some hay, a pirate flag, an exercise bar and concepts such as nightmare, bully and memory. These are but a few examples of the characters,

relationships and objects that the children inquired about, but they illustrate the range of content of their inquiries. The children inquired about characters in 50% of all their inquiry statements. This was the case whether the characters were children like themselves (Shirley, Thomas and Ira), animals (Badger and his friends, Ernest and Celestine) or adults (the peddler, the puppet maker, the senior citizens).

Although the children inquired most about characters, there were specific aspects of the characters that interested them. Table 20 presents the contents of the children's inquiry statements and the specific aspect of that content that was the focus of the inquiry statement, e.g. the actions of characters (what characters did), the identification of a character (who or what the character was), the state of the character (how the character felt). The contents that were cause-effect and compare-contrast relationships are not included in this table even though they constituted the content of 23% of the children's inquiry statements because relationships was not divided into subheadings as were the rest of the content classes.

The children's greatest interest when they inquired about characters was in the actions of characters (ACT-CHAR). They were interested in what characters did, whether the character was going up in the attic to catch a nightmare, eating avocados, looking for a lost pet,

Table 20

Percentage of Detailed Content of Inquiry Statements

Subheadings	%					
	C	O	A	W	E	L
actions	61.05	3.04	0	0	0	0
identification	8.00	43.65	20.00	89.66	5.00	18.75
description/ state	12.93	15.74	20.00	0	45.00	18.75
location	7.14	9.14	36.00	1.72	15.00	0
properties	6.97	19.29	4.00	8.62	35.00	62.50
intention/ purpose	3.91	1.02	16.00	0	0	0
quantity	0	8.12	0	0	0	0
object	0	0	4.00	0	0	0

Note. C = characters  
O = objects  
A = actions

W = words  
E = events  
L = locations

daydreaming about pirates or gathering mussels under the ice.

He asked the chickens?	Ryan	I-D-C	ACT-CHAR
She would have spit the porridge right at the puppet then.	Brad	GEN	ACT-CHAR
She might do cartwheels on that.	Tessa	GEN	ACT-CHAR

Why doesn't he play on the porch?	Mark	I-D-O	ACT-CHAR
She'll laugh at him.	David	GEN	ACT-CHAR
(She'll) give him a licking.	Stacey	GEN	ACT-CHAR
He'd probably try and get up and his head would bonk on the wall.	Jean	GEN	ACT-CHAR

When the children inquired about objects they were mainly interested in what the object was (ID-OB) (43.65%).

What's a parting gift?	Shawn	I-D-O	ID-OB
I wonder what's behind that wall that's coming up.	Jodie		
It's a garden.	Stacey	GEN	ID-OB
I know what it is, a boobytrap.	Mark	GEN	ID-OB
No, it wasn't <u>Catch Me Josephine</u> . Catching me Josephine is about catching a cat.	Brad	REC	ID-OB
That's the diving board.	David	JU	ID-OB
What kind of map do you think it is?	Jodie		
A pirate map	David	GEN	ID-OB
A treasure map.	Jean	GEN	ID-OB

They also inquired about physical properties of objects (PR-OB) (19.29%) as well as abstract descriptions of objects (DES-OB) (15.74%).

That's how high the trees are?	Ryan	I-D-C	PR-OB
What is this thing for? <i>We decided to play office text with the rubber stamp.</i>	Stacey	I-D-O	PR-OB
Rubber?	Ryan	I-D-O	PR-OB
Maybe it's about a stick that can see things.	Jean	GEN	PR-OB
But they're yellow caps	Stacey	ORG	PR-OB

not gray caps.

It's even creepier.	Ryan	JU	DES-OB
Some masks look like cats like that lionface, that's cute.	Stacey	JU	DES-OB
Oh. That was a good book.	Elizabeth	JU	DES-OB
I wonder what kind of home they live in.	Stacey	I-I	DES-OB

Often inquiry statements that focused on what something was like (DES-OB) concerned what the story was like or what it was about.

Oh I like this story.	Jean	JU	DES-OB
This is a very interesting book.	Elizabeth	JU	DES-OB
That's a weird ending.	Ryan	JU	DES-OB

The children's inquiry statements about objects were not only concerned with the observable, physical or concrete aspects of objects, they were also concerned with more abstract notions of what the object was about and what it was like. Although the children varied in the aspect of an object they were exploring, they did not tend to explore one object from a variety of aspects such as what it was (ID-OB), its physical characteristics (PR-OB) and what it was like (DES-OB).

When the children inquired about words they wanted to know what the words said and what they meant (ID-W) (89.66%). In some cases they read the word (R) or recalled (REC) the word or its meaning.

What does that say? Toys for . . .	Stacey	I-D-O	ID-W
What does that other note say?	Stacey	I-D-O	ID-W
What does that say? Except that says water.	Elizabeth Jean	I-D-O R	ID-W ID-W
What could that be Mark? What's a teller at the bank?	Jodie		
He tells stuff.	Mark	GEN	ID-W
Dawn is midnight.	Brad	REC	ID-W
What's threaten?	David	I-D-O	ID-W
Do you think Yeck Eck means take me?	Jodie		
No.	Ryan	JU	ID-W
Yes.	Brad	JU	ID-W
Yeah.	Stacey	JU	ID-W

There were few inquiries about actions (25, 2.16%), events (20, 1.72%) and locations (16, 1.38%), although the percentages in Table 20 for these headings would appear to indicate substantial numbers of inquiry statements. The subheading for object of an action represents one statement, David's "Wondering what?"

Although there was considerable variability in other aspects of the children's inquiry statements, there is, with a few exceptions, more consistency in the content of their statements. Table 21 illustrates that the major focus of all children's inquiry statements was characters. The percentage of each child's inquiry statements that concerned characters was from 44% to 58%, with two exceptions. Tessa made very few inquiry statements and they were almost exclusively about characters. The percentage of Elizabeth's



were concerned about relationships (REL - cause/effect, compare/contrast) for 14% to 17% of their inquiry statements, Elizabeth and Brad focused on cause/effect and compare/contrast 33% to 35% of the time - approximately 50% more than the other children. These two children did not simply generate ideas about characters, they presented reasons for those ideas and they were often the children to offer an explanation for another child's or the teacher's idea.

Books can be very expensive Especially when there's Caldecott medals in them.	Jodie Brad		GEN	REL
Badger's still alive because he has to give the presents out.	Brad		GEN	REL
He's digging for his house because all the snow is in the way of his hole.	Brad		GEN	REL
The hoe, the hoe cause she's scared of snakes.	Brad		GEN	REL
Maybe he's running after the dog so he won't go in the garden.	Elizabeth		GEN	REL
For no one else would go in there cause it would be all crowded with bushes.	Elizabeth		GEN	REL
Cause she won't get sad it's all wrecked.	Elizabeth		GEN	REL
Cause it will lead to the thing and then he'll shoot the door.	Elizabeth		GEN	REL

This pattern of similarity between the inquiry statements of Brad and Elizabeth continued with the percentage of their inquiry statements that focused on objects, and once again this percentage was lower than for the other children. The rates for the other children ranged from 16% to 20% except for Shawn. Twenty-five percent of Shawn's inquiry statements had objects as the content. The pattern was consistent across the major content topics of characters, relationships and objects. Content of inquiry statements for many children was similar in these three classes except for Elizabeth, Brad, Mark and Tessa. The content of Elizabeth's inquiry statements was different for characteristics. Elizabeth and Brad were the same for relationships and objects. Tessa focused almost exclusively on characters and Mark and Tessa made very few inquiry statements involving cause and effect and comparisons. More of Elizabeth and Mark's inquiry statements focused on words. Elizabeth was showing considerable growth in her reading ability at that time, and this may be reflected in her interest in words. Mark was still at an early emergent reading stage. He did not express this interest in words in other classroom reading activities.

Approximately 70% of the content of each child's inquiry statements focused on characters, relationships and objects. Most children were only slightly more interested in objects than relationships. The majority of each child's

inquiry statements concerned characters and objects, the concrete physical characters and objects, the concrete physical aspects of the stories. These were also the aspects of the stories that were obvious and visible in the illustrations.

The fact that there was some similarity in the content of many of the children's statements could be accounted for in several ways. First, the children appeared to be interested in and curious about the same things regardless of the story. Second, the children were influenced by the inquiries of other children and the teacher. A review of series of inquiry statements supports this idea. When a topic was introduced by the teacher or another child, two or more statements were usually made about that topic. In few cases were inquiry statements made and not followed by another statement or inquiry statement about the same topic.

What kind of a monster he is.	Jodie		
He looks like a pillow.	Elizabeth	ORG	REL
Looks like a goblin.	Ryan	ORG	REL
He looks like a space alien.	Brad	ORG	REL
Do you think they can see him behind the pages?	Jodie		
No.	David	JU	ACT-CHAR
Probably not.	Jodie		
They probably, they've probably been watching him all the time and the, then, they knew, they watched him go	Brad	GEN	ACT-CHAR

over there and then they're going to go get him.			
And bring him over to the teacher.	Ryan	GEN	ACT-CHAR
Elizabeth?	Jodie		
Maybe they thought he got lost or something and they're going to take him.	Elizabeth	GEN	ACT-CHAR
Maybe those were two kids and they're coming into the room and they didn't, they were coming in to get something with their big sister or something.	Jean	GEN	ACT-CHAR
<i>Boy is hanging on a bar that holds up a volley ball net.</i>			illustration
What is he hanging on Mrs. Esch?	Ryan	I-D-O	ID-OB
A bar.	Stacey	OBS	ID-OB
A bar.	Shawn	OBS	ID-OB
But there's power lines where he is.	Brad	GEN	ID-OB
It looks like some kind of a climbing . . .	Jodie		
Barb wire.	Stacey	GEN	ID-OB
. . . apparatus that he's allowed to.	Jodie		
Electric wire.	Brad	GEN	ID-OB
It's barb wire.	Stacey	GEN	ID-OB

The content of the children's inquiry statements differed from the content of children's questions outlined by Piaget (1926), Davis (1932) and Meyer and Shane (1973). Piaget recorded questions of causal explanation, psychological motivation, justification, reality and

history, human actions and intentions, rules and usage, classification and valuation. Davis added social relations to Piaget's categories. Meyer and Shane observed that younger children asked more questions about causality and fewer about human actions, justification and social relations. In this study as in the other three studies the children inquired about causal relations. However, in the present study the children were more interested in the actions of characters. Although the classifications that emerged from these data could be included under several of the headings used in the Piaget, Davis and Meyer and Shane studies (causality, human actions and intentions), the children's inquiry statements were not concerned with social relations, justification, reality and history, rules and usage, and valuation. Perhaps because this study concerned narrative text, the children in Jodie's class also inquired about words, which was not a classification noted in the previous studies. Given the differences in settings of the previous three studies and the present study, different results are not surprising. Piaget studied one child's questions during activities with a tutor. Davis studied children's questions recorded at home, and Meyer and Shane studied children's questions at play and at "Show and Tell." Stirling (1937) noted that young children asked more questions about objects than they did about purpose, time and place - more questions about concrete rather than

abstract notions. This finding was also evident in the inquiries made by the children in the present study.

Berlyne and Frommer (1966) noted few questions about relationships in their study of children's questions. However, the group of Grade 1 children in the present study were curious about causal relations. The fact that Berlyne and Frommer were focusing only on questions could account partially for the difference in results. Because children have difficulty asking causal-relation questions does not mean they are not curious about or do not inquire about relationships. The inquiry statements the children in this study made revealed their interest in causal relations and their ability to express that interest.

Van Hekken and Roelofsen's 5-year-olds (1981) asked more questions about people's actions and possessions than about their feelings, thoughts and needs. This finding was also reflected by the 6- and 7-year-olds in Jodie's class. These children made more inquiry statements about the physical world than social and psychological worlds.

### Function

The majority of the statements made by the children during the reading of Yellow and Pink were epistemic statements — statements concerned with knowledge. These statements were grouped under three general headings: the transmission of knowledge (giving or requesting), reaction

to knowledge and manipulation of knowledge. In order to explore the complexity of the children's inquiry statements, it is necessary to consider specific functions included under these general headings (see Table 4).

The story Yellow and Pink and the teacher's and children's statements that occurred during the story evoked a wide variety of inquiry statements, many of which served the purpose of transmitting propositional knowledge (PROP). The function of statements identified as propositional knowledge was to provide or obtain knowledge that was not referred to in text — a proposed state of affairs.

They look like robots	Ryan	ORG	PROP
Wondering what?	David	I-D-O	PROP
He's just tricking him.	David	GEN	PROP
Maybe no one made them.	Ryan	GEN	PROP

The children also made inquiry statements that sought or expressed explanations (EXPL) or the speaker's knowledge of the answer (EVAL).

Because he got a fat stick and he got a thin . . .	Ryan	GEN	EXPL
That. I know what because that Pink had it the other way, had it different because when Pink imagined it, it had arms already because little sticks sticking up.	Brad	GEN	EXPL
Well the little skinny guy I think the branch just came down and then the man just made him with the little stick.	Lindsay	GEN	EXPL

That's what happened to Yellow too.	David	GEN	EXPL
Someone made them and put them on there.	Ryan		
How do you know? "Who are we?"	David	I-D-O	EVAL
I know who they are.	text		
What do you think he's going to turn them into?	Elizabeth	GEN	EVAL
I don't know.	Jodie		
	Brad	GEN	EVAL

In addition, their inquiry statements served as a reaction to statements from the teacher, text or other children. They confirmed (CONF), disagreed with (DIS) and expressed their own opinions (OP) about other's statements or statements from text.

(Are you) Sure?	Jodie		
Yes.	Ryan	JU	CONF
Oh, as toys, sort of.	Jodie		
Yeah.	David	JU	CONF
Brad's right.	David	JU	CONF
Back to the house? Where they were made?	Jodie		
Yeah.	Ryan	JU	CONF
They look like robots.	Ryan		
They aren't. They're people.	David	JU	DIS
"And wouldn't we know who made us since we had to be there when we got made?"	text		
No.	Shawn	JU	DIS
"Sand blowing in the wind might have helped with the smoothing."	text		
Nah! It didn't happen . . .	David	JU	DIS

No.	Jean	JU	DIS
That didn't happen.	Brad	JU	DIS
Does this look like it's going to be a happy story?	Jodie		
No.	Elizabeth	JU	OP
It looks like it's going to be a sad story.	Brad	JU	OP
That was funny.	Brad	JU	OP
We have funny buildings up there.	Brad	JU	OP

As in Yellow and Pink the majority of the children's inquiry statements for the other 23 stories were statements whose function was the transmission of knowledge (propositional [PROP], evaluative [EVAL], explanation [EXPL], creative [CR]) and expressive reaction to knowledge ([EXPR], confirmation [CONF], disagree [DIS], correct [COR], opinion [OP]).

What kind of a monster he is.	Jodie		
A friendly monster probably because he looks friendly.	Elizabeth	GEN	PROP
He looks like a pillow.	Jean	ORG	PROP
Looks like a goblin.	Ryan	ORG	PROP
If you look carefully she's sort of going like this, sort of stern.	Jodie		
Cause she's going to catch him and sell him to the zoo.	Brad	GEN	EXPL
Okay, so where do you think the story might take place?	Jodie		

Will he make a mess in the school?	Brad	I-D-C	PROP
Why do you think it's about a school Brad?	Jodie		
Cause he got loose . . . He's chasing the girls and he's making a mess because he's a wild animal and he doesn't want to go back trapped because he doesn't have very much mud in his cage.	Brad	GEN	EXPL
He looks like he doesn't like it in there.	Ryan	GEN	PROP
Looks like he does. Where's the hay?	Brad Stacey	GEN I-D-O	DIS PROP
But that's in England. No this isn't England. This is far north in Canada.	Shawn Jodie	GEN	PROP
I know where it is. This is in the North Pole probably.	David Ryan	GEN GEN	EVAL PROP
Not quite that far but it certainly is farther north than Victoria.	Jodie		
The North Pole is colder.	Ryan	ORG	PROP
Ooh! They're lucky.	Brad	JU	OP

As noted, the functions of the children's inquiry statements were grouped under three general headings: transmission of knowledge, reaction to knowledge and manipulation of knowledge. The large percentage (74.41%) of the children's inquiry statements were concerned with transmitting knowledge — knowledge they were creating and searching for,

explanations of knowledge, and theirs and other children's knowledge about the story (Table 22). In addition to the transmission of knowledge, the children's inquiry statements also served as a reaction to knowledge and information from the text, the teacher and the other children. Although only 18.39% of the children's inquiry statements were identified as reaction statements, these indicate that the children agreed or disagreed with and reacted affectively to the text, the teacher and the other students as well as giving or requesting knowledge. Seven percent of the children's statements involved manipulation of knowledge, that is, elaboration and clarification of another's statements. Table 23 provides specific details regarding the function of the children's inquiry statements. It reveals that the function of almost 50% of the children's inquiry statements was the transmission of propositional knowledge – knowledge that represents their use of prior knowledge and experience in creating knowledge about aspects of a story. The function of the majority of the children's inquiry statements was to request or present a proposition that represented past, present and future knowledge regarding features of the story.

Approximately 17% of the transmission statements were explanations. The children did not merely give or request propositions, they gave or requested explanations of knowledge presented by the text, the teacher and the

Table 22

Classification of Functions of Inquiry Statements

Class	Frequency	%
Transmission	890	74.41
Reaction	220	18.39
Manipulation	86	7.20

students. Explanations represent inquiry statements that are more cognitively demanding than propositions. The child is not only creating a proposition, he/she is extending that proposition to include an explanation.

The finding that the function of children's inquiry statements is more concerned with knowledge than explanation of knowledge is similar to the findings in other studies regarding the function and the content of children's questions (Berlyne & Frommer, 1969; Van Hekken & Roelofson, 1981). Table 23 also indicates that giving or receiving propositional knowledge and explanations were the functions of more inquiry statements (64.14%) than all other functions combined (35.86%).

Forty-two (3.51%) of the children's inquiry statements did not appear to be inquiry statements, because they were referring to information contained in the text (REF) or were a repetition (REP) of a statement made by the text, the

Table 23

Functions of Inquiry Statements

Function	Frequency	%
Transmission	890	74.41
Propositional	569	47.58
Explanation	198	16.56
Evaluative	59	4.93
Referential	34	2.84
Creative	18	1.51
Repeat	8	.67
Demonstrate	3	.25
Imperative	1	.08
Reaction	220	18.39
Confirmation	98	8.19
Expressive	45	3.76
Disagree	43	3.60
Opinion	34	2.84
Correct	23	1.92
Manipulation	86	7.20
Elaborate	45	3.76
Clarify	18	1.51

Note. The total number of functions (1196) exceeds the total inquiry statements (1140) because some inquiry statements served more than one function.

teacher, another student, or the student him/herself. However, because the function of the statements was to justify or support an earlier statement or to question information or a previous statement, they were identified as inquiry statements.

<i>Fox coming out of Badger's hole and other creatures waiting.</i>	illustration			
Which one's the mole?	Brad	I-D-O	REF	
What does that say?	Elizabeth	I-D-O	REF	
Does he look rich on the cover?	Jodie			
No.	class			
How can we tell?	Jodie			
Because he had shaggy hair.	Stacey	GEN	REF	
Because he has . . . eyes.	Ryan	GEN	REF	
And shaggy pants.	Stacey	GEN	REF	
And he's pulling out his pockets.	Ryan	GEN	REF	

The function of 13.71% of the children's inquiry statements was to confirm, disagree with or correct statements from the text, teacher and other students. These children not only had ideas of their own, as is evidenced by the number of statements involving the transmission of knowledge, they were involved with the ideas of others and reacted to them in a positive or negative manner.

Only one statement was identified as having an imperative function (to give directions). The child

suggested a strategy to use as a means of constructing knowledge rather than giving the constructed knowledge.

Now today when we're looking	Jodie
at the story it might remind	
you of some I wonder kinds of	
thinkings about the . . .	
I wonder . . .	Brad
. . . What the book's about.	Elizabeth
Yeah. Like I wonder what's	Jodie
happening next.	
Look at the front . . . that	Ryan
might give us an idea.	

Table 24 reveals the degree to which each function was used. There were 15 functions served by the children's inquiry statements. Brad's statements reflected use of 14 out of the 15 functions, more than any of the other children. The most noticeable difference between the percentage of inquiry statements made by Brad and the other children is the difference in percentage of inquiry statements whose function is explanation. Brad made almost 50% of the statements whose purpose was explanation. This high percentage represents Brad's consistent transmission of statements containing a cause-effect relationship. He consistently put forward a proposition and revealed the reasoning that led him to his conclusion. More than any other child, he made his thinking visible. For those statements whose function was to disagree, Brad made almost 40% of the inquiry statements. In doing so he would often follow his statement disagreeing with the text, the teacher or a student with another statement explaining why he

Table 24

Functions of Inquiry Statements by Child

Function	%									
	E	J	D	Sh	L	St	R	B	T	M
propositional	5.45	10.90	13.18	7.21	4.74	14.41	15.64	23.20	1.05	4.22
explanation	9.60	7.07	5.56	5.56	2.01	8.59	10.61	47.98	.50	2.52
evaluative	1.69	5.08	22.04	5.08	1.69	18.64	20.35	20.35	5.08	0
creative	0	11.11	27.77	5.56	0	22.22	5.56	22.22	0	5.56
confirmation	14.29	8.16	12.24	4.08	2.04	23.47	16.33	18.37	0	1.02
expressive	11.11	8.89	11.11	0	0	13.33	28.89	24.44	0	2.23
disagree	0	4.65	23.26	11.63	4.65	9.30	6.98	39.53	0	0
opinion	14.72	5.88	11.76	0	5.88	26.47	8.82	26.47	0	0
referential	17.65	8.82	2.94	2.94	2.94	35.30	8.82	20.59	0	0
correct	8.70	8.70	13.04	13.04	4.35	4.35	4.35	30.42	4.35	8.70
elaborate	8.89	20.00	2.22	6.67	4.44	15.56	13.33	28.89	0	0
clarify	5.56	0	5.56	5.56	5.56	5.56	38.87	27.77	0	5.56
repeat	12.50	0	25.00	0	0	33.33	0	33.33	0	0
demonstrate	0	33.33	0	0	0	33.33	0	33.33	0	0
imperative	0	0	0	0	0	0	100.00	0	0	0

Note. E = Elizabeth  
 J = Jean  
 D = David  
 Sh = Shawn  
 L = Lindsay

St = Stacey  
 R = Ryan  
 B = Brad  
 T = Tessa  
 M = Mark

disagreed. For no function was there consistency in the number of inquiry statements made by each child. Three or four children made at least 60% of the inquiry statements

for each function. These children were usually Ryan, Stacey, Elizabeth or David. A notable exception was the percentage of statements whose function was elaboration, Jean, 20%. There are so few statements for the functions of repeat, demonstrate and imperative that they are not included as part of this discussion. In most cases Tessa and Mark made the lowest number of inquiry statements for each function. This is not surprising, since Tessa and Mark made the smallest percentage of inquiry statements (Tessa .95%, Mark 3.05%).

Table 25 reveals the percentage of each child's inquiry statements for each function. There is variability in the function of inquiry statements for each child and among children. It is clear that all children made more inquiry statements whose general purpose was the transmission of knowledge than statements whose general purpose was reaction to and manipulation of knowledge. Similarly, all children made a greater percentage of inquiry statements whose specific purpose was to provide or obtain propositional knowledge than to clarify knowledge. For all except three children, giving or receiving propositional knowledge was the function of at least 46% of their inquiry statements. Two notable exceptions were Brad and Elizabeth. For both children the percentage of their statements whose function was propositional knowledge represents fewer than 40% of their statements. In both cases the percentage of their

Table 25

Percentage of Major Functions for Each Child's Inquiry Statements

Child	%											
	Transmission					Reaction					Manipulation	
	PROP	EXPL	EVAL	REF	CR	CONF	EXPR	DIS	OP	CORR	ELAB	CLAR
Brad	39.64	28.53	3.60	2.10	1.20	5.41	3.30	5.11	2.70	2.10	3.90	1.20
Stacey	46.07	9.55	6.18	6.74	2.25	12.92	3.37	2.25	5.06	.56	3.93	2.25
Ryan	50.00	11.80	6.74	1.69	.56	8.99	7.30	1.96	1.69	.56	3.37	2.23
David	54.45	7.69	9.09	.70	3.50	8.39	3.50	6.99	2.80	2.10	.70	.70
Elizabeth	34.83	21.35	1.12	6.74	0	15.73	5.62	0	5.62	2.25	4.50	1.12
Jean	55.36	12.50	2.68	2.68	1.79	7.29	3.57	1.79	1.79	1.79	8.04	0
Shawn	56.16	15.07	4.11	1.37	1.37	5.48	0	6.85	0	4.11	4.11	1.37
Lindsay	62.79	9.30	2.33	2.33	0	4.65	0	4.65	4.65	2.33	4.65	2.33
Mark	68.57	14.29	0	0	2.86	2.86	2.86	0	0	5.71	0	2.86
Tessa	50.00	8.33	25.00	0	0	0	0	0	0	8.33	0	0

Note. PROP = propositional                      CONF = confirm                      ELAB = elaborate  
EXPL = explanation                      EXPR = expressive                      CLAR = clarify  
EVAL = evaluative                      DIS = disagree  
REF = referential                      OP = opinion  
CR = creative                      CORR = correct

Repeat (REP), Demonstrate (DEM), and Imperative (IMP) are not included in this table because they constitute extremely small numbers of inquiry statements, except for Tessa (REP 8.33%).

statements whose function was explanation is considerably higher than for other children (Brad 28.53%, Elizabeth 21.35%).

The inquiry statements of all children except Stacey, Tessa and David had explanation as the second most frequent function. For all but Stacey, David, Lindsay and Tessa, explanation was the function for at least 12% of their inquiry statements. It is interesting to note that for both Stacey and David the function of confirmation was the second most frequent function. Elizabeth made more statements whose function was confirmation than did any other child. David and Tessa made a high percentage of inquiry statements whose function was evaluative. That is, they indicated they knew the answer or determined if someone else knew the answer. In most instances the former was the case.

Only four children's statements represented all 12 of the functions included in Table 25 - Brad, Stacey, Ryan and David. Since these children made more inquiry statements than the other children (Brad 27.15%, Stacey 16.54%, Ryan 13.49%, David 12.53%), perhaps their greater involvement in the interaction that accompanied each story required them to use a wider range of functions. Mark and Tessa, who made the fewest number of inquiry statements, made statements representing the least number of functions (Mark 7, Tessa 4). By being allowed to interact with the story and by entering into the interaction, it may be that children use

and therefore practice the range of functions necessary in order to be competent and contributing members of a community of meaning makers.

Although the previous discussion has focussed on the C/T context, S/S, S/B, S/A and S contexts reflected cognitive processing, referent, form, content and function that was similar to that found in inquiry statements made in the C/T context. However, because the participants in each context were limited to a reader and a subject, or in the case of the S context just the subject, the evocations differed from those in the C/T context. In the S/S, S/B, S/A and S contexts there were no evocations by other students. In the S/S, S/A and S contexts the evocations were all from the text.

In summary, to address research question two – what is the nature of the children's inquiry? – this discussion has focused on the nature of the children's inquiry statements. Exploring the children's inquiry statements revealed: the cognitive processing involved in the inquiry statements (processing), who evoked the children's inquiry statements (evocation), where the inquiry statements were referenced (referent), how the children used language to inquire (form), what they made inquiry statements about (content), and why they made inquiry statements (function).

The children's inquiry statements involved organizing, generating, judging and responding affectively to knowledge

and information. Their inquiry statements were evoked by the text, the teacher and other students and referred to knowledge that was beyond the text. They used a variety of forms for their inquiry statements and the majority of the inquiry statements were not interrogatives. They inquired about a variety of topics, but inquiries about characters and causal relationships constituted the focus of the majority of their inquiry statements. The purpose of the children's inquiry statements was to transmit propositional knowledge and explanations and to react to statements of others. Having determined the nature of the children's inquiry statements in the five contexts, the results were compared to results from the think aloud procedure.

#### **Think Aloud Procedure**

An analysis of the children's statements during the think aloud procedure and subsequent comparison to data and results from the C/T context revealed differences between the children's inquiry statements in the C/T context and the think aloud (TA) procedure. Before considering the results from the C/T context and the TA it is important to point out the difference in the two settings. The C/T context involved ten children and the teacher. In this context, the teacher and children made statements about the text, the teacher asked questions and often modeled and/or invited inquiries. This social setting led to dialogue among

children, between teacher and children, and children and teacher. On the other hand, the TA involved one child and the researcher. The child indicated what he/she was thinking as the story was read. The researcher stopped regularly but said nothing. The researcher made no statements about the text, asked no questions and did not model and/or invite inquiry statements. In addition the children in the TA had been instructed to respond at regular intervals. In contrast, within the C/T context the children responded when and if they chose to do so. Although there are differences, a comparison of results is informative because the TA may elicit inquiry statements that may actually be covert inquiry in a C/T context. The following discussion will focus on whether or not the children made inquiry statements in the TA and the processing, form, function and content of the inquiry statements in the C/T and TA contexts.

The children made inquiry statements about narrative text during the TA procedure. Their statements indicated a search for and construction of knowledge. The following statements represent each child's response to the same portion of text.

<i>And so he had no friends</i>	text
Then he did cause the bed would help him.	Brad
Maybe no one liked him.	Shawn

There, that's because he had too much work to do for everybody.	David
That's not nice to have no friends.	Stacey
Maybe he'll find some friends.	Jean
I wonder why he has no friends because he has to keep on working and that's why he'll have no time to play and have friends.	Elizabeth
<i>He signed a proclamation that no one in the land must bounce.</i>	text
But maybe he can bounce but they can't.	Brad
Maybe he didn't want anyone to bounce because they might break their legs or break their arms.	Shawn
He's going to bounce still though.	David
They shouldn't when they're on the bed cause they might break the bed.	Stacey
Then that must mean that <u>he</u> can't bounce.	Jean
Cause he was the king and he's the only one who can bounce. And no other people can bounce.	Elizabeth

Each child made from 35 to 41 statements and the percentage of those statements that were inquiry statements ranged from 59.45% to 100% (Jean, 59.45%; Stacey, 68.29%; Shawn, 75%; Elizabeth, 97.37%; David, 97.44%; Brad, 100%).

The focus and nature of the inquiry statements varied from child to child. Many of Stacey's statements focused on illustrations and evaluated some aspect of the illustration.

There's a sun.  
 Weird trees.  
 That looks like a neat castle.  
 Weird pots.  
 Weird bed.  
 There's a weird creature.

The majority of Elizabeth's statements provided a rationale for the statement in the text that had just been read.

*He bounced and bounced and* text  
*bounced until he forgot*  
*all his problems.*  
 Cause he forgot all his  
 cause he gets quite dizzy  
 when he bounces and he'll  
 just forget them all out  
 of his head.

*So the ministers, nobles* text  
*and judges of the land*  
*had a meeting.*  
 Cause they're, cause they're  
 talking about when the  
 king was jumping on his  
 bed because he's a king  
 and he's not, kings don't  
 bounce on the bed they  
 just go to sleep.

*The king was so sad.* text  
 Because he can't, get  
 bouncing his bed  
 any more.

Many of Jean's statements were predictions of what would happen next.

*And so he had no friends.* text  
 Maybe he'll find some  
 friends.

*He bounced and bounced  
 till he forgot all  
 his problems.* text  
 Maybe his problems will  
 come, will come back  
 and he'll remember them.

*The king had no choice.* text  
 Maybe he, the reason why  
 he didn't have any choice  
 is he's probably just  
 being a king and somebody  
 else is going to be king.

Although Shawn's inquiry statements combined aspects of the previous three children's inquiry statements, many were speculative in nature.

*The people of the land  
 were hard working  
 and happy.* text  
 Maybe he gave them lots  
 of food so they won't  
 be hungry.

*But the king had so much  
 work to do.* text  
 Maybe he was, like he was  
 drawing books and stuff.  
 They're a lot of work.

*The king found it so  
 difficult to sleep that  
 he climbed to the top  
 of the ebony bedpost  
 and bounced on his bed.* text

I don't know. Maybe he's  
having fun.

Although many of the inquiry statements of these four children tended to be either judgemental, pragmatic, predictive or speculative, their statements were not all of the same type. David and Brad's inquiry statements represented a combination of all the types of inquiry statements.

### Process

The cognitive processing evident in the TA inquiry statements was the same as in the C/T context, although the degree to which skills were used differed. The children generated information more than they judged and organized or responded affectively to knowledge and information in both the TA and C/T contexts. However, the degree to which they generated knowledge increased in the TA setting (C/T 71.14%, TA 86.67%) while the degree to which they judged, organized and responded affectively to knowledge and information decreased in the TA setting (C/T 19.54%, TA 9.44%; C/T 6.14%, TA 2.78%; C/T 3.18%, TA 1.11%).

### Evocation

The evocation for the TA inquiry statements was considerably different from that in the C/T context for at least three reasons: the participants differed, the

researcher said nothing to the child, and the child had been taught to tell what he/she was thinking at the end of each page.

### Referent

The referent for all but two of the 177 inquiry statements was beyond text (BTX).

### Form

There were similarities and differences in the form of the inquiry statements in the TA and the C/T context. Table 26 indicates the differences and similarities in the two contexts. Although there is some difference in the percentage of non-interrogatives and direct (I-D-O, I-D-C) and indirect (I-I) interrogatives in the two contexts, there is virtually no difference between the percentage of indirect interrogatives (I-I) in both contexts. This similarity in results for I-I can be explained by examining each child's I-I statements. All children except Elizabeth made fewer indirect interrogatives in the TA than the C/T context (three children made no I-I in the TA). On the other hand a relatively high percentage of Elizabeth's inquiry statements were I-I (15%). The only children, other than Elizabeth, to make I-I in the TA context were Stacey (1) and Shawn (1). It appears there has been little transfer of using I-I to inquire about narrative text from

Table 26

Form of Inquiry Statements for TA and C/T Context

Form	Context	
	TA (%)	C/T (%)
Interrogatives	6.18	10.96
Direct Open	2.08	5.04
Direct Closed	0	1.39
Indirect	4.10	4.53
Non-Interrogatives	93.82	89.04

Note. TA = Think Aloud      C/T = teacher reading to class

the C/T to the TA context, except for Elizabeth. This is an understandable result if one considers the earlier discussion of form for the C/T context. In the C/T context indirect interrogatives were invited (only 19 out of 52 occurred spontaneously), or modeled (although the children's statements differed from the teacher's model). Only one indirect interrogative occurred before the teacher began modeling I-I. The children made four I-I when the teacher neither modeled or invited, but the teacher had been modeling and inviting for 12 or more stories by that time. The indirect interrogatives in the TA context were neither modeled nor invited.

One hundred percent of Jean's, David's and Brad's inquiry statements during the TA were non-interrogatives. All of these children had made direct open and indirect interrogative inquiry statements in the C/T context, but did not do so in the TA context.

### Content

Table 27 presents the difference in the content of the inquiry statements in the TA and C/T contexts. Although the focus of the inquiry statements was similar in both contexts, the percentages for each changed. Only those contents that occurred frequently are shown in Table 27. Because of the limited number of statements made for the categories of: description of events (2), location of a character (1), identification of a character (2), description of a character (1), properties of a character (1), identification of an object (2), and action of an object (1), these categories have not been included in this table. No other content categories were addressed by the children's inquiry statements.

Table 27 indicates that the greatest focus of the children's inquiry statements in the TA was on characters and relationships. The relationship referred to was the cause/effect relationship of bouncing on the bed and dying. Although the focus on the actions of characters was similar in the TA and the C/T contexts, the children's inquiry

Table 27

Content of Inquiry Statements in TA and C/T Context

Category	Context	
	TA (%)	C/T (%)
Characters	57.06	50.69
Actions	62.38	61.05
State	31.19	12.93
Objects	7.85	16.98
Properties	40.00	19.29
Description	40.00	15.74
Relationships	35.08	22.07

statements were more concerned with the state of the character (how he felt) in the TA context than in the C/T context. There is a high percentage of statements that are properties and description of objects. This is because there were few statements concerning objects (14) and six of them were about properties of objects and six were descriptions of objects. All 12 of these statements were made by Stacey as she critiqued the illustrations.

### Function

The difference in the nature of the TA and C/T context was also evident in the function of the children's inquiry statements. The function served by the children's inquiry statements in the TA included the transmission of propositional knowledge, referential knowledge, explanations, evaluative knowledge, and reaction to information and knowledge through opinions and expressives. Interactions with others that led to confirming, disagreeing, correcting, clarifying, elaborating, repeating and demonstrating, were absent.

Table 28 compares the functions of the children's inquiry statements during the TA and the C/T context. The function of 86.16% of all inquiry statements during the TA was transmission of propositional knowledge and explanations. The majority of the inquiry statements whose function was to give an opinion was made by Stacey as she critiqued the illustrations.

The percentage of explanatory inquiry statements was similar for only two children (Brad, Jean) in the TA and C/T contexts (see Table 29). The percentage of Stacey's and Shawn's inquiry statements that were explanations more than doubled from the C/T to the TA contexts. The percentage for David and Elizabeth was three times greater from the C/T to the TA context.

Table 28

Function of Inquiry Statements for TA and C/T Contexts

Function	Context	
	TA (%)	C/T (%)
Proposition	53.85	47.58
Explanation	32.31	16.56
Evaluative	1.03	4.93
Referential	.51	2.84
Opinion	9.28	2.84
Expressive	.51	3.76

Table 29

Explanation Function of Statements in TA and C/T Context

Student	Context	
	TA (%)	C/T (%)
Brad	28.57	28.53
David	24.32	7.69
Stacey	21.88	9.55
Elizabeth	70.00	21.37
Jean	13.64	12.50
Shawn	39.29	15.07

The results from the think aloud procedure provide an opportunity to speculate about children's inquiry when they are required to make their thinking overt. However, the results from the TA must be considered in light of the differences in the social setting and procedural constraints that define the TA and C/T contexts.

### Summary

The results from the TA context can be used to support results and conclusions previously outlined for the C/T context:

- children inquire about narrative text,
- there is variability in children's inquiry of narrative text,
- children use a variety of skills to inquire about narrative text,
- context influences children's inquiry of narrative text,
- the majority of children's inquiry statements are not interrogatives,
- the content of the majority of children's inquiry statements are characters and relationships, and
- the function of the majority of children's inquiry statements is the transmission of propositional knowledge and explanations.

These seven points are a concise summary of the results and discussion for the two research questions. They can also serve as an outline for the summary of the findings.

**CHAPTER 5****CONCLUSION****Summary of the Findings**

This dissertation is a report of children's inquiry of narrative text. The study was an exploration of children's search for and construction of knowledge of narrative text in a variety of contexts. This chapter summarizes the findings for each of the two questions upon which the study focused.

1. If the teacher instructs students in text inquiry and creates conditions that encourage text inquiry, will subjects across ability levels inquire about text in five contexts?

C/T - the Grade 1 children are read to by the classroom teacher

S/S - the subjects in pairs read products from writer's workshop to each other

S/B - the subjects are read to by Grade 7 student buddies

S/A - the subjects are individually read to by an adult volunteer

S - the subjects read to themselves

Data for the study were collected for three months. Data consisted of audio-tapes and field notes of the interactions that occurred in the five contexts from April to June. Three interviews were also conducted with the

classroom teacher regarding how she read stories to the children. A think aloud procedure (TA) was conducted at the end of the study to determine if and how students independently inquired about text and if the students' text inquiry reflected the teacher's modeling of text inquiry. Data were analyzed using qualitative and quantitative approaches.

In order to address research question one and determine if the children inquired about narrative text in five contexts, a definition, description and list of skills of inquiry were developed based on the literature in a variety of disciplines. For the present study, inquiry in the language arts was defined as a search for and construction of knowledge. It was regarded as a process that involves sensing incongruities and inconsistencies in situations, formulating questions or problems, suggesting possible answers and developing conclusions. The skills of inquiry in the language arts were viewed as generating, organizing, judging information and knowledge and responding affectively to information and knowledge. This framework was used to explore the children's statements in the C/T context, in the other four contexts and in the TA context.

Ten Grade 1 children were studied in the C/T context. The research findings illustrate that these children inquired about narrative text in the C/T context. During 24 stories the children made 1149 inquiry statements. All

children except Brad showed some consistency in the number of inquiry statements they made for the majority of the 24 stories. Each child also showed considerable variability in the number of inquiry statements he/she made for a few stories. Stacey, Ryan, Brad, Shawn and David showed wide differences in the number of inquiry statements they made for one or two stories compared to all other stories. This wide difference was referred to as unusual performance.

The children's inquiry statements provided glimpses of their involvement in the stages of the inquiry process. Their statements indicated they were sensing incongruities, formulating questions, suggesting answers and developing conclusions. Their statements also revealed their use of various inquiry skills during the inquiry process. They generated, judged, organized and responded affectively to knowledge and information.

The children differed in the number of inquiry statements they made for each story and from story to story. Tessa, Mark and Lindsay accounted for few of the total number of inquiry statements (.96%, 3.05% and 3.48%). Brad, Stacey, Ryan and David accounted for the majority of the total number of inquiry statements (27.16%, 16.54%, 13.48% and 12.53%). Elizabeth, Jean and Shawn made from 6% to 9% of the inquiry statements for 24 stories. David and Brad made inquiry statements during all 24 stories, and Tessa made inquiry statements in only seven stories. Several

factors to consider in each child's inquiry activity appears to be his/her literacy level, level of confidence, and willingness to take risks.

The stories were one factor that influenced the inquiry statements resulting from the interaction involving the children, the text and the teacher. Certain stories led to a greater number of inquiry statements than others. For example, during particular stories, such as Benjamin's 365 Birthdays, the children made few inquiry statements (14), while stories such as Come Away From the Water Shirley led to unusually high numbers of inquiry statements (110). Stories that led to a greater number of inquiry statements tended to be fantasy and/or action adventure stories. The percentage of the total number of inquiry statements for each story ranged from 1.23% to 9.57% of all inquiry statements made during the study.

The teacher's actions as she read to the children also influenced in the children's interaction with text. The children made more inquiry statements if the teacher modeled making indirect interrogatives, invited the children to make indirect interrogatives, or did a combination of the two actions, rather than if she simply read the story and asked the children questions about the story. Whether the teacher modeled, invited, or modeled and invited did not seem important. The important thing appeared to be that she did something to encourage inquiry. The number of times the

teacher modeled and/or invited did not seem to be a factor in determining the number of inquiry statements made by the students.

The data analysis for the C/T context focused on whether or not the teacher modeled and/or invited interrogative statements, or read the story and asked questions. Three interviews with the teacher revealed her perceptions of reading stories to children and what she considered to be important actions in encouraging children's inquiry of narrative text. She referred to two ways of reading stories with children as performance and sharing. The teacher outlined the differences in the two approaches as the way the story is presented to the children, questioning during the story, affective aspects of the reader/listener relationship and the roles of the reader and listener in the interaction. She made only two references to modeling and inviting, two features of an intervention designed to encourage inquiry. The teacher's introduction of modeling and inviting inquiry appeared to stimulate a shift in the metaphor that guided the teacher's perception of reading to children, but did little to consistently modify her classroom practice.

The children made more inquiry statements in the C/T context than the S/S, S/B, S/A, and S contexts combined. Only six of the ten children in the C/T context were studied in the S/S, S/B, S/A and S contexts. Of these four

contexts, the context in which the Grade 7 student buddies read to the children (S/B) led to more inquiry statements by all children. The inquiry statements that occurred in these four contexts were similar to those in the C/T context, but the evocations differed, perhaps because of the participants in the interactions in the five contexts.

2. If the six subjects engage in inquiry of narrative text what will be the nature of the inquiry?

Having determined that the children inquired about narrative text, the degree to which they did so, and the role of the children, the text and the teacher in the interaction, the data were then analyzed to address question two. In determining the nature of the children's inquiry statements, six categories emerged that were used to describe their statements. These were described in terms of the cognitive processing exhibited by the statement, what evoked the statement, and whether the statement referred to knowledge or information located in the text or beyond the text. In addition their inquiry statements were described in terms of the form, content and function of the statement. These results modify original models of children's questioning and provide additional insights into the nature of children's inquiry.

The children's statements indicated that they generated knowledge (constructed knowledge beyond information that was

given). They organized knowledge and information (compared similarities, contrasted differences and indicated sequences). They judged knowledge and information (assessed/evaluated reasonableness or quality) and responded affectively to knowledge and information (expressed feelings and emotions). The children explicitly generated knowledge (695) more than they judged (191), organized (60) or responded affectively (31) to knowledge and information. The degree to which their statements reflected use of these skills varied from story to story.

Various factors evoked the children's inquiry statements, including the text, the teacher and other children. Teacher statements (666), which included declaratives, direct interrogatives and indirect interrogatives, evoked more inquiry statements than text (365) or the statements of other children (169). However, more inquiry statements were evoked by text than by other children or by each type of teacher statement considered separately. In some cases the children responded to text immediately after a portion of text had been read and there had been no intervening statement by the teacher or another student. The number of statements evoked by text and other students indicates that the children listened, were involved in constructing knowledge of text, and that there was a social dimension to their construction of knowledge. It also indicates that it was not necessary for the teacher to

initiate all inquiries. The children were able to do so on their own. Children varied in the degree to which their inquiry statements were evoked by text and other students. Brad made 25% of the inquiry statements evoked by text and 23.67% of the inquiry statements evoked by other children. Tessa made 1% of the statements evoked by text and none of the statements evoked by other children. The majority of the child/child changes involved David, Stacey, Ryan and Brad.

The referent for nearly all of the children's inquiry statements was beyond the text. The children went beyond the information explicitly contained in the text to construct meaning. They used information from their prior knowledge and the social context to construct knowledge.

The children's inquiry statements took various forms including declaratives, direct and indirect interrogatives, exclamations and single word and non-word responses. The majority of the children's inquiry statements were not interrogatives (89.04%). The children made 58 direct open interrogatives, 16 direct closed interrogatives and 52 indirect interrogatives. The children made more direct interrogatives than indirect interrogatives, even though the teacher modeled and invited indirect interrogatives. The children made indirect interrogative statements only after the teacher began modeling and inviting them and only ten of those statements occurred spontaneously. All of the

children's direct interrogatives occurred spontaneously. However, when the teacher invited them to ask questions, they appeared unable to do so.

Although the children made indirect interrogatives only after the teacher modeled and invited them, there were differences in the model presented by the teacher and the form of the children's statements. The form modeled by the teacher was cognitively more difficult than the form uttered by the children. This raises the question of whether or not the teacher's model served the intended purpose of instructing the students in asking questions or if it served the purpose of demonstrating to the children that it was appropriate to be curious about narrative text. The data appear to support the latter. If it is deemed important to teach children to ask questions of narrative text, it may be necessary to utilize explicit instruction embedded in the natural context.

The results of this study raise doubts about the emphasis on teaching children to question, encouraging children to question and exploring the degree to which children question in school. The children made a variety of inquiry statements that were not interrogatives. These statements reveal the extent of children's involvement in their learning. They appeared to ask questions when that form of statement most suited their purposes.

Beyer (1979) and Dewey (1938) suggest that asking questions occurs early in the inquiry process, and suggesting possible answers occurs later in the process. It is interesting to hypothesize that when children make non-interrogative inquiry statements, they may have previously formed questions but not verbalized them. A further tantalizing hypothesis is that by teaching children to ask questions and encouraging them to do so, teachers could be actually interfering in children's natural inquiry process, a process in which they already ask questions.

The children's inquiry statements focused on a variety of subject matter (content). The content of the majority of the children's inquiry statements was characters (50.69%), relationships (22.07%) and objects (16.98%). They also inquired about words, actions, events and locations.

When the children made inquiry statements about characters, 61% of those statements concerned the actions of the characters. Forty-three percent of their statements about objects focused on what the object was and 19.29% focused on the properties of the object. The content of relationships refers to cause/effect and compare/contrast. There was reasonable consistency in the content of the children's inquiry statements. Approximately 45% to 60% of the content of each child's inquiry statements concerned characters, except for two children. Tessa made very few inquiry statements, almost all of which concerned characters

(91.67%). Only 38.83% of Elizabeth's inquiry statements focused on characters. By the same token, relationships was the content of 14% to 19% of each child's inquiry statements except for Elizabeth (35.29%) and Brad (33.43%). These two children not only generated, judged and organized knowledge and information, they also gave reasons for what they said. The similarity in the content of the children's inquiry statements could be explained as a result of similar interests and/or the influence of the teacher's or another child's previous statement. Although the content results of this study are similar to results obtained by Berlyne and Frommer (1966), Davis (1932), Meyer and Shane (1973), Piaget (1926), and Van Hekken and Roelofsen (1981), there are also some differences, differences which may be attributable to differences in the methodology used in the studies.

The function of children's inquiry statements was the transmission of (74.41%), manipulation of (7.20%), and reaction to (18.39%) information and knowledge. The function of the majority of the children's inquiry statements was the transmission of propositional knowledge (47.58%) — knowledge that represents their use of prior knowledge and experience to create knowledge about aspects of a story. Explanation was the function of 16.56% of all inquiry statements. Children reacted to statements from text, the teacher and other children by agreeing with

(8.19%), disagreeing with (3.60%) and correcting (1.92%) others' statements.

There was considerable variability in the functions of the children's inquiry statements. Not all children's statements represented all functions. Ryan, Stacey, Brad and Elizabeth made 60% of the inquiry statements for each function. Brad made almost 50% of all of the statements whose function was explanation. Tessa and Mark made the lowest number of inquiry statements for most functions and their statements represented the smallest number of functions.

Each child made more transmission than manipulation or reaction statements. The function of 50% of all but three children's statements (Brad, Stacey and Elizabeth) was transmission of propositional knowledge. Stacey's and Elizabeth's statements had high percentages of confirming statements (12.92%, 15.73%) and Elizabeth's and Brad's inquiry statements showed highest percentages of explanation statements (21.35%, 28.53%). The children who made the highest number of inquiry statements made statements representing the largest number of functions. By entering into the interaction surrounding the story, the children used and practiced the range of functions necessary to be effective communicators.

Results from the TA procedure support results from the five contexts:

- children inquire about narrative text,
- there is variability in children's inquiry of narrative text,
- children use a variety of skills to inquire about narrative text,
- context influences children's inquiry of narrative text,
- the majority of children's inquiry statements are not interrogatives,
- the content of the majority of children's inquiry statements are characters and relationships, and
- the function of the majority of children's inquiry statements is the transmission of propositional knowledge and explanations.

#### **Strengths of the Study**

1. The study focused on a variety of student statements, including questions, as indicators that the children were inquiring about narrative text and were involved in their learning.
2. The study was carried out in a classroom setting in five contexts that were a natural part of the activities in this classroom and are characteristic of many primary classrooms. The study was carried out over an extended period of time and involved repeated observations of the same phenomena under a variety of everyday school and classroom constraints. The study used all stories read by the teacher and involved a

group of children with a wide range of literacy development.

3. The data for this study were retrievable and available for continued analysis and reflection. The field notes helped to contextualize data from the audio-tapes and provided an additional source of information. The three interviews with the teacher provided insights into her perceptions of her practice and supplemented data derived from the audio-tapes and the field notes.
4. The categories used to analyze the data were derived from the data itself. Many of the categories had been previously referred to in the literature. The combination of qualitative and quantitative analyses contributed to an understanding of the data.

#### **Limitations of the Study**

1. Although the sample for this study is representative of groups of children in many classrooms, the number of children involved in the study was small. Transferability of the results will depend on the similarity between aspects of this situation and the reader's situation.
2. Although the intact group of ten children were the focus of the study in the C/T context, only six of

those children were subjects in the S/S, S/A, S/B, and S contexts. The three children who made the smallest number of inquiry statements and one of the four children who made the largest number of inquiry statements in the C/T context were not included in the S/S, S/A, S/B and S contexts. Therefore, the picture of these contexts is limited when compared to the C/T context.

3. Although the use of audio-tapes provided verbal data that were retrievable and could be reviewed for additional insights, the audio-taping limited the data to verbal data. A study of inquiry activity involves both verbal and non-verbal data and non-verbal data may not be captured in field notes. Video-taping would have enhanced the study by providing both verbal and non-verbal data.
4. Although the classroom teacher and researcher attempted to ensure that the use of the cassette recorder in the five contexts was as familiar and natural as possible, it cannot be assumed that the presence of the cassette recorder did not influence the children's inquiry activity. In addition, the presence of the researcher making field notes could have influenced the children's inquiry by distracting them from the story or making them feel less confident or free to take risks.

5. Consideration of the teacher actions to encourage inquiry of narrative text was limited to modeling and inviting indirect interrogative statements. The teacher indicated there were a variety of teacher actions that encourage inquiry of narrative text and they were not limited to modeling and inviting indirect interrogatives.
6. The actions of the Grade 7 student buddies differed and may have differentially influenced the inquiry activity of the students to whom they were reading.
7. The study provides a limited view of children's inquiry activity in school. Although children's inquiry of narrative text was studied in five contexts, other school contexts exist in which children interact with text, such as the library, during morning news and as part of reading instruction. This study was also limited to school settings and did not consider inquiry of narrative text in other settings, such as home, the public library or Sunday School.
8. Interpretation of the children's inquiry statements was made from the researcher's perspective and was not validated as to the children's view of the processing, evocation, referent, form, content and function of their inquiry statements.

## Implications

### Future Research

The children in this study inquired about narrative text in the C/T context and to varying degrees in other contexts. Exploring the nature of the children's inquiry statements revealed the cognitive processing of their inquiry statements, what evoked the statements, what knowledge was referred to by the statements, and the form, content and function of the statements. Although the research questions have been answered, these inevitably lead to other questions and future research.

1. Do children inquire about expository text and what is the nature of that inquiry?
2. What effect does text type (e.g. fantasy, action, real life) have on children's inquiry of narrative text?
3. What teacher verbal and non-verbal actions facilitate children's inquiry of text?
4. What are the effects of teachers' cognitive modeling on student actions?
5. How do children's emotional, social and affective dispositions affect their inquiry activity?

### Practice

This study of a small group of Grade 1 children's inquiry of narrative text reveals the existence and the complexity of their inquiries. The children examined, turned things over intellectually, inferred and judged. This study confirms Dewey's (1938) assertion that children inquire, and at the same time reveals the text and texture of that inquiry.

Results of this study suggest implications for practice.

1. If one considers the degree to which the children in this study inquired about narrative text using forms other than questions, it suggests that educators' perception of questions as evidence of inquiry and active learning needs to be broadened to include other forms of statements.
2. The decision of educators to facilitate rather than direct children's interactions with text leads to dialogues between readers and texts. Educators should enter into dialogues with texts along with the children.
3. If educators provide stimulating texts, encourage the children to dialogue with the teacher, the text and other students, they create an environment that can encourage inquiry.

4. Although children may be experiencing difficulty with reading, this does not mean that they are not proficient in interacting with the text, conducting inquiries and searching for and constructing meaning of narrative text.

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## APPENDIX A

**Annotated Bibliography of Stories for the C/T Context**

Andrews, J. (1985). Very last first time. Illustrated by I. Wallace. Vancouver, BC: Douglas & McIntyre.

When the tide is out, Eva, a young Inuit girl, goes under the ice to collect mussels by herself for the first time. While exploring beneath the ice her candle goes out and she is unable to find her way back to the hole in the ice so she can get out. Just as the tide begins to come in she finds the hole and is pulled to safety by her mother.

Barrett, J. (1974). Benjamin's 365 birthdays. Illustrated by R. Barrett. New York: Atheneum.

In order to remember the fun and excitement of his ninth birthday, Benjamin the bear wraps up everything in his house (and his house) so he can open one present a day until his tenth birthday.

Burningham, J. (1982). Avocado baby. New York: Thomas Y. Crowell.

A baby becomes very strong by eating avocados and uses his strength to frighten a burglar, move furniture, push the car, and subdue bullies who are bothering his brother and sister.

Burningham, J. (1977). Come away from the water Shirley. New York: Thomas Y. Crowell.

While at the beach with her mother and father, Shirley fantasizes that she and a stray dog are captured by pirates. They escape, find a treasure and sail off into the sunset. Shirley returns to reality and walks to the car with her mother and father.

Fox, M. (1984). Wilfrid Gordon McDonald Partridge. Illustrated by J. Vivas. Harmondsworth, England: Puffin Books, Penguin Books Ltd.

Wilfrid tries to help Miss Nancy recover her memory by bringing her things that have the qualities of a memory. He brings her something warm (a hen's egg), something from long ago (a box of shells), something that makes you laugh (a puppet), something that makes

you cry (his grandfather's medal), and something precious as gold (his football). Each item brings back a memory for Miss Nancy.

Lionni, L. (1969). Alexander and the wind-up mouse. New York: Panther.

Because Alexander envies his friend Willy, the wind-up mouse, and wants to be like him, he searches for a magic purple pebble that will turn him into a wind-up mouse. When Willy is put in a box to be sent away, Alexander changes his mind and Willy becomes a real mouse and is saved.

Lionni, L. (1989). Tillie and the wall. New York: Knopf.

Because of her curiosity and persistence, Tillie the mouse reaches the other side of the wall and finds more mice. The mice celebrate because they can now travel freely back and forth beneath the wall and visit each other.

McPhail, D. (1983). The Dream Child. New York: E.P. Dutton.

Dream Child and Tame Bear sail through the night in a boat with wings. They meet a lion, go to the bear's castle, visit a giant, free a giraffe stuck in the mud and dance around a campfire with a family of apes. When the Dream Child and Tame Bear fall asleep the apes return them to the boat to continue their journey.

Mayer, M. (1987). There's an alligator under my bed. New York: Dial.

When his parents don't believe there is an alligator under his bed, a little boy uses food to lure the alligator into the garage. He slams the garage door and locks it and leaves a note on the door of the garage warning his father about the alligator inside.

Mayer, M. (1988). There's something in my attic. New York: Dial.

When her parents don't believe there's a nightmare in the attic, a little girl puts on her cowboy clothes, lassoes the monster (who has taken her teddy bear) and pulls him down to her parents' room. When she tries to

show the nightmare to her parents it has disappeared, along with her teddy bear.

Mayne, W. (1986). Barnabas walks. Illustrated by B. Firth. New York: Prentice-Hall.

Barnabas, a guinea pig, escapes from his cage in the empty classroom. When two children return to the room to get Barnabas they take the cage, believing that Barnabas is inside. Barnabas tries to find his cage by following a path of oats. He is saved by a dog just as a cat is about to pounce on him. The dog thinks Barnabas is one of her new puppies.

Ness, E. (1974). Yeck eck. New York: E.P. Dutton.

When Tana's father says she can't get a baby she first tries to buy one. When that plan doesn't work Arnie gives her one of his brothers and sisters. The baby says "Yeck Eck!" Soon Tana has many babies. They all say "Yeck Eck" and she doesn't know what it means. Because she has so many problems with the babies she returns them and thinks about buying a pet instead.

Park, R. (1980). When the wind changed. Illustrated by D. Niland. Sydney, Australia: Collins.

Josh makes a horrible face and his face remains in that position when the wind changes. When he goes to his father at the bank to ask for help, he thwarts a robbery, the wind changes and his face returns to normal. His father demonstrates for TV that he also used to make horrible faces. Just then the wind changes.

Rylant, C. (1982). When I was young in the mountains. Illustrated by D. Goode. New York: E.P. Dutton.

The author recalls happy, simple times when she lived in the mountains with her grandmother, grandfather and younger brother.

Slobodkina, E. (1940). Caps for sale. New York: Scholastic.

A peddler who sells caps has them stolen by monkeys as he sleeps. He manages to regain the caps when the monkeys imitate his actions and eventually throw the caps on the ground.

Steig, W. (1984). Yellow and Pink. New York: Farrar, Straus and Giroux.

Two puppets, Yellow and Pink, try to solve the mystery of how they were created.

Van Allsburg, C. (1979). The garden of Abdul Gasazi. Boston, MA: Houghton Mifflin.

Fritz, the mischievous dog, escapes from Alan and runs into the garden of a magician. Alan believes the magician has changed the dog into a duck. When he returns to tell Fritz's owner what has happened he finds that Fritz, the dog, has already returned home. Fritz is carrying the cap that the duck had taken from Alan.

Varley, S. (1984). Badger's parting gifts. New York: Lothrop, Lee & Shepard.

When Badger dies the woodland animals remember all the things that Badger taught them while he was alive.

Vincent, G. (1981). Ernest and Celestine. New York: Greenwillow Books.

When Ernest the bear and Celestine the mouse go for a walk in the snow, Celestine loses her stuffed toy, Gideon. Ernest tries to substitute other toys for Gideon, but when Celestine is still unhappy, Ernest makes a new Gideon for her. They celebrate the new Gideon with a Christmas party.

Viorst, J. (1978). Alexander who used to be rich last Sunday. Illustrated by R. Cruz. New York: Atheneum.

Alexander begins the week with bus tokens. During the week he manages to lose or spend the dollar given to him on Sunday by his grandma and grandpa. As the week ends Alexander is left with only the bus tokens he had at the beginning of the week.

Waber, B. (1972). Ira sleeps over. Boston, MA: Houghton Mifflin.

When Ira is asked to sleep over at Reggie's house, he has a problem deciding whether or not to take his teddy bear. His sister says Reggie will think he's a baby, but his mother and father suggest he should take it.

Ira decides against it. Ira and Reggie have a good time, but when they begin to tell ghost stories Reggie brings out his teddy bear. Ira rushes home to get his teddy bear and returns to find Reggie already asleep - with his teddy.

Wallace, I. (1987). Morgan the magnificent. Vancouver, BC: Douglas & McIntyre.

Morgan dreams of becoming a high-wire artist and practices on the barn roof and on a beam in the barn. When the circus comes to town she visits the circus, dons the costume of Anastasia, the high-wire artist, and attempts to walk on the high wire. She experiences difficulty and is rescued by Anastasia.

Yolen, J. (1977). The seeing stick. Illustrated by R. Charlip & D. Maraslis. New York: Thomas Y. Crowell.

In an attempt to make his blind daughter happy, a Chinese emperor promises a reward to anyone who can help her see. Among the many people who try to help the girl is an old man who tells stories by carving images in his walking stick. The little girl learns to see by touching the images in the stick. The story ends by revealing that the old man is also blind.

Zolotow, C. (1963). A tiger called Thomas. Illustrated by C. Stock. New York: Lothrop, Lee & Shepard.

Because he was extremely shy, Thomas sat on the porch of his new home and watched the other children and the cat play, the lady across the street rake her leaves, and the old man walk his dog. He was afraid they wouldn't like him. When Thomas went out on Hallowe'en dressed as a tiger everyone knew it was Thomas, and because they were friendly Thomas knew they liked him. He felt wonderful.

## APPENDIX B

Schedule of Data Collection  
for C/T, S/S, S/A, S/B, S Contexts

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY				
M A R.				C/T	29 C/T C/T				
	S/A	2	3	S/B	4	S C/T	5		6
	S/A	9	10	S/B	11	S/S	12		13
A P R I L		16	17	S/B	18		19	S/S	20
	S C/T S/S S/A	23	24		25		26	S C/T	27
	S/A C/T	Apr. 30	1	S/B	2	S/S C/T	3	S C/T	4
M A Y	C/T	7	8		9	S/S C/T	10	S C/T C/T	11
	S/A C/T	14	15	S/B	16		17	S C/T	18
		21	22	S/B	23	S/S C/T	24	S	25
J U N E	C/T	28	29	S/B	30	S/S C/T C/T	31		
	S/A C/T	4	5	S/B	6		7		8
		11	12		13	S/B C/T S/S S	14	S C/T	15
	C/T C/T	18	19		20		21		22
	25	26		27		28			

## APPENDIX C

## Schedule of Stories for C/T Context

Date	Time	Title	Code
Mar. 29	9:15-9:27	Alexander Who Used to be Rich Last Sunday	AIR
Mar. 30	11:30-11:45	When the Wind Changed	Win
Mar. 30	9:15-9:22	Caps for Sale	Cap
Apr. 5	9:10-9:20	Tillie and the Wall	Til
Apr. 23	9:13-9:25	Yellow and Pink	YP
Apr. 27	11:25-11:36	Alexander and the Wind-Up Mouse	AIM
Apr. 30	10:05-10:17	Badger's Parting Gifts	Bad
May 3	9:05-9:20	The Dream Child	DC
May 4	11:27-11:54	When I was Young in the Mountains	You
May 7	9:10-9:28	Yeck Eck	YE
May 10	9:40-10:01	Garden of Abdul Gasazi	Abd
May 11	11:10-11:21	Ernest and Celestine	EC
May 11	11:40-11:53	There's an Alligator Under my Bed	All
May 14	11:15-11:32	There's Something in my Attic	Att
May 18	11:50-12:03	Avocado Baby	Avo
May 24	10:15-10:25/ 10:45-10:58	Barnabas Walks	Bar
May 28	11:10-11:21	Benjamin's 365 Birthdays	Ben
May 31	9:45-10:05	Come Away From the Water Shirley	Shi
May 31	10:06-10:19	The Very Last First Time	VL
June 4	11:00-11:12	Wilfred Gordon MacDonald Partridge	WGM
June 14	11:05-11:24	Morgan the Magnificent	MM
June 15	9:15-9:29	A Tiger Called Thomas	Tom
June 18	11:05-11:19	Ira Sleeps Over	Ira
June 18	11:20-11:35	The Seeing Stick	Sti

## APPENDIX D

## Teacher Interview #1 — April 29

Attitudes Toward Change

1. What is your reaction to trying innovations in your classroom?
2. What made you decide to try this particular innovation?

Reading Stories to Children

3. When do you ask children questions as you read?
4. How do you decide when to question?
5. Do you have a set pattern or do you vary your approach as you ask questions in the classroom?
6. What would you say is the reason to ask children questions?
7. What would you say is the reason children ask questions?

Encouraging children's Inquiry

8. What would you say is the value of encouraging children to inquire about text?
9. To what extent do you feel comfortable/uneasy with encouraging students to inquire about text you share with them?
10. What do you think will happen when you encourage the children to question?

Is there anything you would like to add?

## APPENDIX E

## Teacher Interview #2 - June 2

Implementing the Strategy

1. What were your feelings as you attempted to implement this strategy?
2. Have these feelings changed over time?
3. What factors either influenced or hindered your implementation of the strategy?
4. Did you feel secure, knowledgeable and confident about the strategy before you began? Did you know and understand it?
5. The strategy has evolved from what was originally outlined to what you are doing now.
  - (a) Could you describe how that change came about?
  - (b) How it has changed?
  - (c) Why did it change?
6. What is the purpose of the strategy?
7. What is your opinion of the approach?
8. Could you comment on its practical classroom application - time? teacher control?

Reading Stories to Children

9. Can you outline how you share stories with your children now.
10. How could you compare your previous and present approach?

Is there anything you would like to add?

## APPENDIX F

## Teacher Interview #3 - June 25

Reading Stories to Children

1. What is your purpose in reading stories to the children?
2. Would you consider it a lesson, and if so, what are you teaching?
3. In the second interview you referred to your initial approach to story reading as a performance. You said you had moved beyond that to include other ways of reading stories. Are there any other words you could use to label your present story reading?
4. Dr. Yore referred to sharing and presenting as two ways of reading stories. Do either of these fit what you do? How are they similar or different?
5. What do you see as the role of the teacher in this event?
6. What do you see as the role of the student in this event?
7. Are there other events in life that could serve as analogies for this event?

Implementing the Strategy

8. Did you feel secure, confident and knowledgeable about the strategy of interrogating text before you introduced the strategy in the beginning of May?
9. Did you feel that you know and understood the procedures, rationale, and purpose?
10. What things other than time and modelling facilitated the implementation?
11. What things interfered with, blocked or made implementation of the strategy difficult?

Is there anything you would like to add?

## APPENDIX G

## Data Analysis Codes

PROCESS	- what speaker appears to be doing
REP	<p><u>repeating</u> - word, phrase or sentence of teacher, text, other student(s) or self - utterance is repeated immediately or closely following initial utterance:</p> <p>e.g. verbatim - Go up in the attic.</p> <p>rephrased - I wonder if they were both out in the cold and they were friends and then they turned friendship. - They had a friendship in the cold?</p> <p>shortened - I wonder if she's going to go up in the attic and take care of the monster and tie him up and sell him to the zoo. - Sell him to the zoo!</p> <p>as part of a longer statement - and bring it home. - I think they're going to bring it home too.</p>
REC	<p><u>recall</u> - retrieve and remember given information and information from background knowledge and experience:</p> <p>e.g. - It did not like food or want to eat much.</p> <p>- like when I had a nightmare about like I was drowning in the water.</p>
ORG	<p><u>organizing</u> - comparing similarities, contrasting differences and indicating sequences:</p> <p>e.g. - It always makes me think of wallpaper samples.</p> <p>- Sort of like the magic pebble or magic cookie.</p> <p>- But a dog can't be as a, it's dogs are small, usually small, they're not as big . . .</p>

OBS	<p><u>observing</u> – using the senses to obtain information from text and/or context:</p> <p>e.g. – He certainly is running back here. Right on the path.</p> <p>– So now she's in the attic the sounds coming up the steps.</p> <p>– That's the end of the story.</p>
R	<p><u>reading</u> print correctly or incorrectly directly from the page with or without the teacher:</p>
GEN	<p><u>generating</u> – constructing knowledge beyond information that is given (includes predicting, inferring, hypothesizing, interpreting):</p> <p>e.g. – They must have just got it.</p> <p>– Cause the city's, cause if a monster goes in the city then he might get runned over by a car.</p> <p>– He's not believing. He is not believing the little one.</p>
AN	<p><u>analyzing</u> – identifying parts and components, interrelationships among the components and identifying the main idea:</p> <p>e.g. – Hey, that rhymes.</p> <p>– Oh you think the brother is dressed up.</p>
JU	<p><u>judging</u> – assessing/evaluating reasonableness or quality:</p> <p>e.g. – I like that book.</p> <p>– That's right.</p> <p>– He's cute.</p> <p>– He couldn't have 39 birthdays because he's only 9.</p>
AFF	<p><u>affect</u> – expressing feelings, emotions:</p> <p>e.g. – Oh goodness!</p> <p>– Aah (sigh).</p> <p>– Holy!</p>

EVOCATION	- who or what in context evoked (appears to have evoked) the statement
T-D	evoked by <u>teacher's direct question</u> : e.g. T-D - Stacey, what is your I wonder? Stacey - I wonder what's that monster thing.
T	evoked by <u>teacher's statement</u> that is other than a direct or indirect question: e.g. T - If you look carefully, she's sort of going like this, sort of stern. David - It's not the girl who's doing it. She's not scared. He is.
T-I	evoked by <u>teacher</u> using declarative statement that contains an embedded partial interrogative phrase: e.g. T-I - Hmm. I wonder why that should make a difference. Brad - Cause the city's, cause if a monster gets in the city then he might get runned over by a car.
TX	evoked by <u>text</u> , parts or features of the book: e.g. TX - Then I heard it creeping up the stairs. Ryan - See I told you it was getting on . . .
ST	evoked by statement of other <u>students</u> : e.g. Stacey - There's no such thing as a monster. Jean - Yeah, I know.

REFERENT	- where is inquiry referenced in regards to text
TXB	<u>text based</u> - statements refer to textually explicit information; obvious information right there on the page: e.g. - There's a monster.
BTX	<u>beyond text</u> - statement refers to textually implicit or scriptally implicit information: e.g. - A friendly monster probably, because he looks friendly.

UTX	<p><u>unrelated to text</u> - statement <u>appears</u> to have no relationship to text:</p> <p>e.g. - Oh, he's a hard drive.</p>
FORM	<p>- structural characteristics, lexical grammatical features</p>
I-D-O	<p><u>interrogative-direct-open</u> - introduced by "wh" words; answer belongs to an essentially infinite set of possibilities not specified in the question:</p> <p>e.g. - Why don't they have the other part of the book?</p>
I-D-C	<p><u>interrogative-direct-closed</u> - yes/no questions; answers are either confirmation or denial; answer is from a fixed alternative contained in the question:</p> <p>e.g. - Are all those just his?</p>
I-I	<p><u>interrogative-indirect</u> - declaratives which contain an embedded partial interrogative phrase:</p> <p>e.g. - I wonder why he's up there.</p>
D	<p><u>declarative</u> - a statement that is either affirmative or negative:</p> <p>e.g. - A friendly monster probably because he looks friendly.</p>
S	<p><u>single-word response</u> - right, yes, no, okay</p>
NWRES	<p><u>non-word response</u> laughter, groan, gasp, sigh</p>
INC	<p><u>incomplete</u> - statement is not complete enough to determine one or other aspects (function, content, referent, etc) of statement:</p> <p>e.g. - He went . . . .</p>
E	<p><u>exclamatory</u> - statement that expresses emotions and feelings such as surprise, excitement, happiness:</p> <p>e.g. - Fifty cents! (for a hat) - Oh!</p>

CONTENT	- what speaker is talking about
<p>OB</p> <p>CHAR</p> <p>ACT</p> <p>EV</p> <p>LOC</p>	<p>- the subject matter of student inquiry statements are:</p> <p><u>object(s)</u> - inanimate things:</p> <p>e.g. rock, paper, honey, flower, tape recorder.</p> <p><u>character(s)</u> - animate things:</p> <p>e.g. people, dog, monster, alligator, puppet.</p> <p><u>action(s)</u> - what an object or character <u>does</u>:</p> <p>e.g. talk, tie up, lasso, eat, shake the broom.</p> <p><u>event(s)</u> - a happening:</p> <p>e.g. death, sounds of footsteps coming up the stairs, the escape of a hamster, the tide coming in.</p> <p><u>location(s)</u> - place:</p> <p>e.g. zoo, canals, pond, drive-in, page.</p> <p>- each subject is then divided to indicate what aspect, element or feature of the subject matter is the focus of the inquiry statement.</p>
ID	<p><u>identification</u> - labelling who it is, what it is, what is the meaning:</p> <p>e.g. - Dawn is midnight.</p> <p>- This one is the mole.</p> <p>- This is the bottom of the boat.</p> <p>ID-W, ID-OB, ID-CHAR</p>
PR	<p><u>properties</u> - colour, size, shape, components, cost, speed, SES, appearance, use, sound</p> <p>- concrete/abstract:</p> <p>e.g. - That pebble is purple.</p> <p>- I wonder how old he is.</p> <p>- They don't really know how to talk.</p> <p>PR-OB, PR-CHAR, PR-LOC, PR-W</p>

QUANT	<p><u>quantity</u> of objects, characters, number:</p> <p>e.g. - I think there are 17 hats there.</p> <p>QUANT-OB</p>
LOC	<p><u>location</u> - place and time; where object is, where character will be, where going to, what time it is:</p> <p>e.g. - Where could it have gone?</p> <p>- I wonder where he is.</p> <p>- And here she is looking in where?</p> <p>LOC-OB, LOC-CHAR, LOC-ACT</p>
ACT	<p><u>action</u> - what a character or object <u>does</u>:</p> <p>e.g. - He'll just stay in one place.</p> <p>ACT-OB, ACT-CHAR</p>
INT	<p><u>intention</u> of a character - purpose one hopes to accomplish by an action or series of actions:</p> <p>e.g. - He doesn't want to get in trouble.</p> <p>INT-CHAR</p>
DES	<p><u>description</u> of an event, object - what it is about, what it is like:</p> <p>e.g. - I know what happens, he dies, he dies and he thinks he's still alive.</p> <p>DES-OB, DES-EV</p>
STA	<p><u>state</u> of a character - what it is like, how it feels, psychological, affective characteristics:</p> <p>e.g. - Guess he feels pretty sad there.</p> <p>STA-CHAR</p>
REL	<p><u>relationships</u> of objects/events/actions/locations/characters/words or relationship of components of objects/events/actions/locations/characters/words; relationships may be causal or correlational:</p> <p>e.g. - He's digging for his house because all the snow is in the way of his hole.</p> <p>- He looks like a pillow.</p>

FUNCTION	- purpose for statements
REF	<p><u>referential</u> - to provide or obtain information explicitly contained in the text or context:</p> <p>e.g. - See I can see her cowboy boots.</p>
PROP	<p><u>propositional</u> - to provide or obtain information not contained in the text or context; statements concerned with prior knowledge or a proposed state of affairs:</p> <p>e.g. - They would run and scream they were do it to them.</p> <p>- If you want a baby just marry someone and get, it takes a long time and to have, get a baby.</p>
EVAL	<p><u>evaluative</u> - to establish addressor or addressee's knowledge of the answer:</p> <p>e.g. - How do you know?</p> <p>- I know.</p>
REP	<p><u>repeat</u> - to repeat what student, teacher or text has said.</p>
PAN	<p><u>personal anecdote</u> - to tell stories and incidents from one's life.</p> <p>e.g. - Sometimes I do that on the phone.</p>
DEM	<p><u>demonstration</u> - verbal statements accompanied by non-verbal actions:</p> <p>e.g. - His pockets are hanging out - like this.</p>
EXPL	<p><u>explanation</u> - to provide or obtain the cause of or reason for an action, event, outcome:</p> <p>e.g. - Badger's still alive because he has to give the presents out.</p> <p>- It would probably be cold unless he was wearing socks on his feet.</p>
CR	<p><u>creative</u> - to create language for a character:</p> <p>e.g. - "Help me. I need money."</p> <p>- "Get that out of here."</p>
QU	<p><u>question</u> - to encourage students to question (direct or indirect):</p> <p>e.g. - Brad, what has this title made you wonder about?</p>

ELAB	<p><u>elaboration</u> – to obtain or provide additional information and detail (other than explanation) to previous statement:</p> <p>e.g. – Like a drive-in.</p> <p>– Where you just stay in your car and people used to have, the waitresses used to have roller skates.</p>
CLAR	<p><u>clarification</u> – to obtain or provide a statement that helps to make a previous statement clearer and less ambiguous:</p> <p>e.g. – . . . red hats (text) Red? (student – the hats in the illustration are pink)</p>
ACK	<p><u>acknowledge</u> – to respond to student with no indication of evaluating student's statement:</p> <p>e.g. – Okay.</p> <p>– Oh.</p>
EXPR	<p><u>expressive</u> – to convey emotional or attitudinal information:</p> <p>e.g. – laughter</p> <p>– Oh goodness!</p>
CONF	<p><u>confirm</u> – to indicate agreement with statement of text, student, teacher:</p> <p>e.g. – Yeah.</p> <p>– That's right.</p> <p>– Probably.</p>
DIS	<p><u>disagree</u> – to indicate disagreement with statement of text, student, teacher:</p> <p>e.g. – No, not the principal.</p>
COR	<p><u>correct</u> – to indicate the error in a statement:</p> <p>e.g. – No it wasn't catch me Josephine, catching me Josephine is about a cat.</p>

OP	<p><u>opinion</u> - to provide or obtain a personal belief or judgement that is short of absolute certainty or positive knowledge:</p> <p>e.g. - Well it's interesting.</p> <p>- It's better to wake up.</p>
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