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UNIVERSITY OF ALBERTA

METACOGNITIVE KNOWLEDGE OF YOUNG CHILDREN AS THEY ENGAGE IN READING

BY

LINDA FAY DANILAK

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of MASTER OF EDUCATION.

DEPARTMENT OF ELEMENTARY EDUCATION

EDMONTON, ALBERTA

FALL 1991

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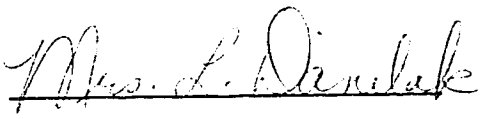

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ABSTRACT

This study investigated Grade 2 students reading, making decisions as they read, and their awareness of the decisions they made. Through individual interviews with students and observations of students reading, data were collected on six average or above average-achieving students regarding their awareness about strategies used when doing an oral reading task. Questioning before, during, and following the reading task provided responses that were later categorized and tabulated under topics related to knowledge on specific reading (cognitive) processes (including monitoring), metaknowledge, schema theory and prior knowledge, and interest in passage content.

A summary of students' reading strategies was determined by tracking the reading process after each passage, and through analysis of oral reading miscues following completion of all passages. The children identified several reading strategies, making sense out of print chiefly through synthesizing within their particular reader schemas, monitoring and predicting. Most readers monitored on the basis of semantic knowledge. Semantic or graphophonic knowledge contributed to most miscues.

Students experienced few difficulties articulating their feelings about reading. Most of the time, all were able to tell *what, how, when,* and *why* they did what they did. Students' awareness (metacognition) tended to be consistent with current notions of the reading process. What they *thought* about reading corresponded with

the nature of their *actions* while reading, suggesting that the students of this study were definitely aware of their reading processing and were capable of expressing their understandings (knowledge of cognitive processes, interests, schema/prior knowledge) in this regard. Furthermore, results indicated that there was a great deal of similarity in what each young reader said about her/his reading processing and what s/he actually did.

Higher comprehension occurred on passages for which there was most schema/prior knowledge and vice versa. Passage interest was not a noticeable factor in passage comprehension.

All children felt good about themselves as readers. In learning to read, they recalled finding parents and teachers helpful.

ACKNOWLEDGEMENTS

Sincere thanks are extended to Dr. W. T. Fagan, thesis supervisor, for his kind assistance, encouragement and generous time in considering the research.

Appreciation is also expressed to Dr. R. Hayden and Dr. F. Peters who served as committee members.

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Chapter 1

INTRODUCTION

Twenty years ago a typical reading lesson was teacher-centered, with emphasis on "mechanics", phonics and structural analysis, directed by a ritualistic manual and basals. Teachers chose activities from suggestions in manuals devised by "experts". Prior to group oral or silent reading, new words were cited on the chalkboard and analysed thoroughly. Questions before, during, and after the reading were the norm, accompanied by worksheet and/or workbook practice. A class was usually divided into ability groups, each taking their turn to read and discuss the selection with the teacher while other groups remained at their "seatwork" assignments. Silence was the rule and a perfect product was the goal.

In contrast, today most classrooms are child-centered and activity oriented. The child discovers and learns through her/his own selection of activities within the framework of a carefully structured environment. Oral language is encouraged as never before. Reading is considered an interactive process, in which the child is viewed as a thinking, acting strategist.

Sancore (1984), for example, states that "Understanding text is both a subconscious and a conscious act. As individuals become increasingly aware of processes involved, they can exercise degrees of control over some of them. Such conscious control is referred to as metacognition, and this area has the potential for improving reading performance" (p. 706). Many ideas have been put forth for enhancing teaching by focussing on metacognitive awareness (Babbs, 1984; Smith and Dauer, 1984). However, this focus has generally

been on older students. More needs to be known about the metacognitive knowledge of young children. In that way the emphasis can be on prevention rather than on remediation.

Perhaps the best way to help children read is to focus on the child and attempt to understand how/why the child feels, thinks, and acts in the way s/he does the reading task. By asking the children to express their perceptions and metaknowledge, teachers should be in a better position to guide them in this process. This study is an attempt to do this.

Purpose and Research Questions

The purpose of this study was to observe young children reading making decisions as they read, and to determine their awareness of the decisions they were making. More specifically, the questions addressed were:

1. What concepts, meaning do children have about reading?
2. How do children engage in the reading process; that is, what is the nature of the miscues which they make?
3. To what extent are children aware of their decisions to provide certain responses (miscues)?
    (a) corrections of miscues, pausing, repetition (tracking-monitoring)
    (b) additions, omissions, substitutions (tracking-miscues)
4. How does their knowledge about what they are reading relate to their level of comprehension of that passage?
5. How does their expressed interest in the passage relate to their level of comprehension of that passage?

Definition of Terms

Cognitive decisions - "interactive processes which will determine the nature of the meaning constructed — the outcome of the reading act" (Fagan, 1987, p. 50)

Graphophonic information - "information from the graphic [print] system and the phonological [sound] system of oral language. Additional information comes to the reader from the interrelationships between the systems" (Goodman, 1969, p. 17)

Instructional reading level - reading level used for reading instruction determined by meeting word identification (>90% correct word identification) and comprehension (>70% correct response to comprehension questions) criteria

Miscue - any divergence a reader makes from a written text while reading orally (e.g. omitting/inserting/substituting text words)

Metacognition - "refers to one's knowledge concerning one's own cognitive processes and products or anything related to them...active monitoring and consequent regulation...of these processes...." (Flavell, 1976, p. 232)

Strategy - "a cognitive plan (at a conscious or subconscious level) which a learner adopts to cope with making sense of and using certain input" (Fagan, 19[illegible], p. 26)

World knowledge - "framework for making sense out of the world" (Fagan, 1987, p. 12)

Assumptions

1. Students are metacognitively aware of their beliefs about reading and are able and willing to discuss them with the researcher.
2. Information given by students and teachers is truthful.
3. Students' oral reading miscues reflect their processing strategies.

Delimitations

The following delimitations apply to this study:

1 The children were drawn from one grade level, Grade 2.
2. They were assessed in one reading mode, oral reading.
3 One set of standardized reading passages from the Bader Reading and Language Inventory (1983) was used.

Limitations

Because of the small sample of two classes and six participants, it is not possible to generalize to the Grade 2 population in general. However, the study did investigate and examine the reading process with these six participants. Results should add to the knowledge of how these participants make decisions about their reading and will provide a basis for the generation of questions and hypotheses regarding the nature of young children's reading and their metacognitive knowledge of the reading process.

Significance

Metacognitive knowledge is becoming a major issue in understanding children's learning. It is anticipated that this study will add to the body of knowledge on how children actively strive to gain meaning from print and how they understand this process. By questioning children as they try various strategies when reading an unfamiliar passage, this study should provide insight as to why young readers decide to engage in various cognitive behaviors or actions.

Discovering how metacognition (awareness/thinking) aids the reader in choosing strategies and in understanding text should provide insight into effective strategies for helping children develop as readers.

Overview of the Thesis

Chapter 2 reviews the current literature related to the purpose of the study. The two central areas of study reviewed are reading as process and metacognition as it relates to reading.

Chapter 3 describes the research design, including information on subjects, instruments, procedures, and the coding and analysis of data.

Chapter 4 presents the findings based on interviews with students and teachers, observations of student participants as they read and, subsequently, seek to explain their actions and thoughts.

Chapter 5 contains a summary of the study, conclusions, implications of the findings for teachers and researchers, and recommendations for further research.

Chapter 2

A REVIEW OF RELATED LITERATURE

Since the purpose of this study was to observe young children reading and making decisions as they read, and to determine their awareness of the decisions they make as they read, a discussion of the literature on reading as process and the relationship between metacognition and reading is warranted. Many researchers in the area of reading as process would support the view of M. Schmitt (1990) who notes that "good readers are actively involved in the comprehension process. They select and use appropriate strategies and monitor their comprehension as they read to help them understand and remember information" (p. 454).

Researchers and teachers of reading did not always perceive reading as a processing activity. For several decades reading was approached as a skill-building, word identification (*word recognition, sounding out,* and *word attack*), product-oriented task. Materials and teaching methods were built on the assumption that the reading process could be separated into words or word parts. Matching letters and sounds, spelling patterns and sound patterns, or word names with graphic shapes (sight vocabulary) were some of these traditional ways of teaching reading.

These early methods that focussed on a small part of the reading process fell short because they neglected the primary purpose of reading; that is, to gain meaning from the passage. Only graphophonic information was important in these partial teaching methods, and the child seemed to be of secondary importance with the teacher making decisions for her/him. In Goodman's

(1970a) view, two necessary parts of our language and reading had been omitted: syntactic and semantic information. Syntactic (sentence patterns, pattern markers-function words, inflections, punctuation, and intonation, grammatical rules) and semantic (prior experience, concepts, and vocabulary) information support the reader in her/his search for meaning from text. These are therefore essential to an understanding of reading as process and reading for meaningful purposes.

Reading as Process

In the past two decades, two pioneers in promoting reading as process, Goodman (1973) and Smith (1982), helped change the traditional skills emphasis (product) approach to reading education by emphasizing context and meaning. They advocated a reader's growth in independence through application of strategies to seek meaning from print. By highlighting the important role of context in the reading process, both Goodman and Smith generated debate and new interest in the area of reading research. Attention to the importance of oral as well as written language in children's language development and a more "naturalistic" orientation toward reading research resulted.

Goodman (1970b) called reading a "psycholinguistic guessing game" because a reader chooses from a number of possibilities and picks what makes sense to her/him. To Goodman, three kinds of information are available to a reader: (a) graphic (from text), (b) syntactic (from reader), and (c) semantic (from reader). From his perspective, the reader's goal is to create meaning from text. Meaning is what drives the reading process. The extent to which a

reader can get meaning from written language depends on how much related information s/he brings to it. Evidence by Y. Goodman as quoted by K. Goodman, her co-researcher, from a study of first graders "indicates that they begin to sample and draw on syntactic and semantic information almost from the beginning, if they are reading material which is fully formed language" (Goodman, 1970b, p. 267). A modified version of Goodman's model for reading in early stages (Goodman, 1970a, p.17) is represented in Figure 2.1.

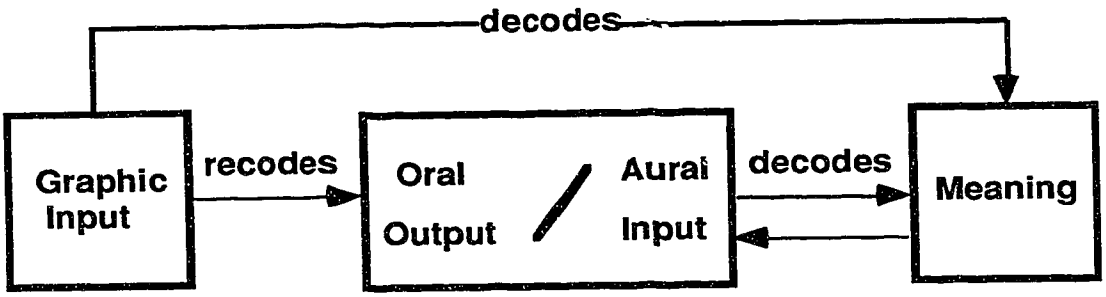

Figure 2.1: Goodman's Model: Reading in Early Stages

In Goodman's view, readers develop sampling strategies to pick only the most useful and necessary graphic cues. Readers develop prediction strategies to get to the underlying grammatical structure and to anticipate what they are likely to find in the print. Readers also develop confirmation strategies to check on the validity of their predictions. Furthermore, readers develop correction strategies to use when their predictions do not work out and they need to reprocess the graphic, syntactic, and semantic cues to get to their goal — meaning. In essence, Goodman, a professor of elementary education (Detroit 1962-75, Tucson 1975-) and award-winning researcher, believes that

reading is a recursive sampling and checking process. As readers become more efficient, they depend less on graphic input in order to create meaning.

According to Goodman (1970a), reading is a process in which information flows essentially in an "inside-out" direction — that is, from "inside" the reader's head to the "outside" where it meets the graphic (text) display. The only "outside-in" flow of information involves processing the graphic array of printed symbols, and this, in Goodman's view, is only a minor element in the reading process.

Smith (1988) stressed the importance of teachers and their understanding of reading as he stated: "Teachers must understand what they are doing. Teachers make the difference, not prescriptions, materials, or activities. It is better that a teacher ...understand that children learn by being engaged in meaningful and worthwhile activities than (be) glib with the jargon but totally insensitive to the underlying realities" (p. 128).

Similarly, in Fagan's (1987) "interactive processes" model of reading the focus is on the "learner as a doer, rather than on the product or outcome....The learner activates those cognitive processes, engages in those strategies, and utilizes necessary knowledge which will make for a successful reading experience" (p. 6). Like Goodman and Smith, Fagan encourages the reader to become an independent strategist in understanding text.

In order for teachers to understand the reader-text interaction, they must first understand "how readers and text come together" (Fagan, 1987, p. 8). This

relationship is depicted graphically in Figure 2.2.

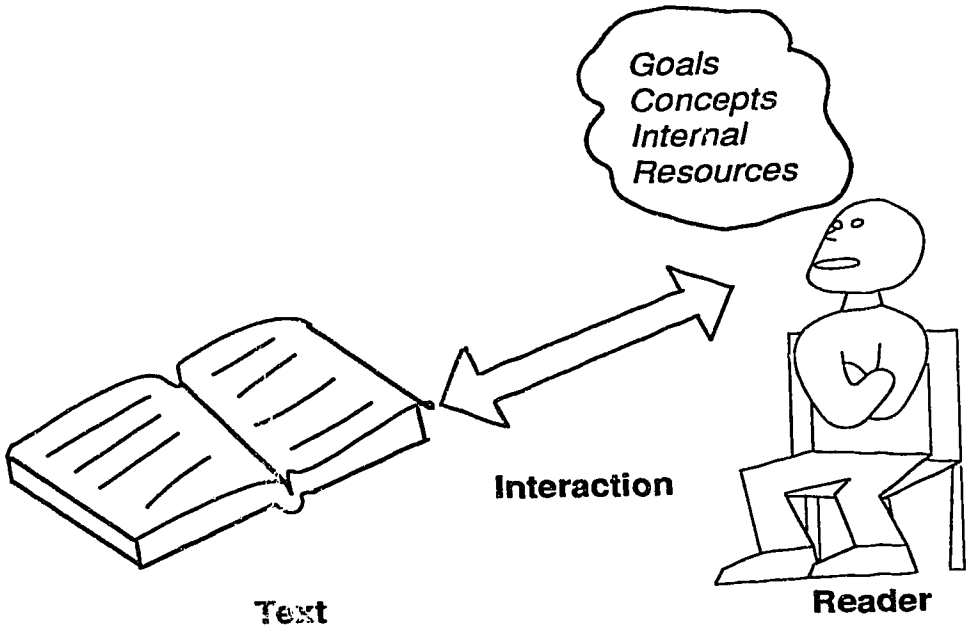

Figure 2.2: Fagan's Diagram of Reading as Process (1990a, p. 13)

This figure illustrates the interactive nature of print input or text, the learner (reader), and the interaction between the learner's brain and the print.

Teachers need to be aware of a child's internal resources including her/his knowledge (world, language, task and strategy) and affective resources (Fagan, 1987). Teachers need to also be aware of the external textual material and its possible influences on reader perceptions. Lastly, as Fagan (1987) states, "in order for reading to happen the reader's internal resources within the memory system and the external data of the text must come together. Working memory is the link between resources and text. The processing that takes place influences the manner in which information is stored and retrieved" (p. 53).

Fagan labels the interactive cognitive processes: attending, analysing, associating (meaning and symbol sound), predicting, inferring, synthesizing, generalizing, and monitoring (Fagan, 1987). Like Fagan, Goodman and Burke (1980) advocate careful planning by the teacher in order to challenge students to think in order to facilitate reading as an interactive process. "Whether the discussion is about how reading works, or about the content or concepts of the material being read, there should be much opportunity for the students to explore what is happening and why"(p. 36). They go on to add, "Students learn to accept the ideas of their peers, examine them carefully, and reach decisions about their reading experiences based on their interactions with one another"(p. 36).

A useful tool for teachers in determining how children process material is miscue analysis (Goodman and Burke, 1972). Miscue analysis provides a systematic way of observing and interpreting a reader's miscues (unexpected responses) consisting of substitutions, additions, or omissions. Such data can provide a teacher with insight into what and how strategies should be taught in order to improve the child's reading. Both teachers and readers need to know *why* and *how* they are acting as they do. This awareness of *why* and *how* they do things is referred to as "metaknowledge" or "metacognition" (Fagan, 1987).

Metacognition and Reading

In close parallel to the emphasis on processing in reading is the work of several developmental psychologists in metacognition, a concept that is not well understood. Jacobs and Paris (1987) define metacognition as "any knowledge about cognition states or processes that can be shared between

individuals. That is, knowledge about cognition can be demonstrated, communicated, examined, and discussed" (p. 258). Metacognition is "thinking about thinking", focussing on self-regulated thinking; that is *what* people know and *how* they apply that knowledge to particular tasks (Jacobs & Paris, 1987).

In reading processing, metacognition emphasizes how readers plan, monitor, and repair their own comprehension, leading to independent learning. What readers know about goals, tasks, and strategies for reading effectively can influence how well they plan and monitor their own reading. Though poor readers seldom use effective strategies to aid comprehension, good readers actively participate in task analysis and strategic reading, predicting, looking ahead and back in passages in order to check for understanding (Baker & Brown, 1984; Ryan, 1981). Ideally, the reader is an active strategic participant in the task. Metacognitive awareness, as an alternative to traditional teacher-focussed instruction, is a tool to help a reader to plan strategies, to monitor and repair her/his own comprehension, leading to independent learning. Understanding the processes of thinking (metacognition) before, during, and after reading is an avenue toward more effective reading, rather than an end in itself.

To examine how metacognition develops, Myers and Paris (1978) compared metacognitive knowledge of reading of younger and older children, finding the latter more aware of meaning as a goal of reading and better able to report strategies to deal with comprehension (search for meaning) problems. This developmental aspect of metacognition is explained by Brown and Deloache (1977) who found that a novice reader "tends not to know about either his capabilities on a new task or the techniques necessary to perform efficiently" (p. 21). Both Piaget (1929) and Vygotsky (1962) noted developing

awareness and control in young children. While Piaget reported that pre-school children are less aware of their own thought processes, Vygotsky reported that school-age children, with the development of inner speech, seem to become more aware of their own actions, and also seem better able to regulate (control) their own actions. Brown (1977) recognizes there might be gaps between what children say they know and how they perform. Markman (1977) and Myers and Paris (1978) confirm that this gap (between what children say and do) narrows with increasing age or as a result of practice at a particular cognitive activity such as reading.

In order to measure metacognition most studies have used interviews to determine young children's knowledge about reading. Both Clay (1972) and Johns (1980) found beginning readers confused about whether to read pictures or print. Reid (1966) found that youngsters did not know functions of letters, words, or punctuation; nor could they relate any goals of reading. Other researchers (Wixson, Bosky, Yochum, and Alvermann, 1984) found that young children believe the purpose of reading to be recalling text verbatim and always pronouncing words correctly. Young, beginning readers appear confused about what reading is and how to go about it.

Studies of metacognition with older readers (8 years and older) employed interview methods also, though these were more structured. Myers and Paris (1978) elicited children's free responses from a scripted interview with set categories of Flavell and Wellmann's (1977) person, task, and strategy variables. Canney and Winograd (1979), in addition to an interview technique, used experimental passages to determine which passages could be read and why. They discovered that younger, poorer readers attended more to decoding while better readers knew that making sense was the goal. In another study

about skimming as a reading strategy the researchers (Kobasigawa, Ransom, and Holland, 1980) found that 10-year-olds had little understanding of skimming while 14-year-olds could describe and apply the skimming strategy successfully.

In general, research about metacognition and reading has considered the differences between younger and older readers (Garner, 1980) and between better and poorer readers (Garner, 1980; Gambrell and Heathington, 1981). Collectively studies have revealed that reading awareness progresses with age and reading ability. Jacobs and Paris' study (1984) confirms the effectiveness of metacognition instruction (what, how, why strategies influence reading). Findings by Haller, Child, and Walberg (1988) confirm that metacognition instruction on reading comprehension is effective. It would seem that a child's awareness and effective use of reading strategies can be promoted by instruction.

Most metacognitive instruction studies have examined memory strategies and their uses (Fabricius & Hagen, 1984; Kennedy & Miller, 1976; Paris, Newman, & McVey, 1982). Other studies have shown that children can monitor their own performances and use executive strategies such as planning, evaluating, revising, and repairing (Borkowski & Kurtz, 1987; Lodico, Ghatala, Levin, Pressley, & Bell, 1983; Pressley, Borkowski & O'Sullivan, 1985).

Some studies indicate the benefits of metacognitive instruction for children's reading comprehension. "Informed Strategies for Learning" (ISL) is a program which taught 8-to12-year-olds *what, when, how* and *why* comprehension strategies are used. Children of all ages and reading abilities showed gains in reading comprehension and memory in this program (Paris, Cross, & Lipson, 1984; Paris & Jacobs, 1984; Paris & Oka, 1986).

In another metacognitive study (Palinscar and Brown, 1984) a peer tutoring procedure called "reciprocal teaching" used four strategies: self-questioning, summarizing, paraphrasing, and predicting information in text. Gains in reading comprehension and memory occurred after 20 consecutive days of instruction.

Teachers trained to model metacognitive approaches to reading in a study by Duffy, Roehler, Meloth et al., (1986), provided descriptions of strategies during regular reading lessons using a five-step lesson format: introduction, modeling, guided interaction, practice, and application. Students showed significant increases in metacognition.

The success of metacognitive instruction indicates that this awareness of *what, how, why,* and *when* readers do what they do (metacognition) is an important part of proficient reading and that it can be taught. Understanding the processes of thinking and reading can promote effective strategies toward better, more efficient reading.

According to Brown (1977), the prefix "meta" signals a change of emphasis and in metacognition or metaknowledge "what is of major interest is knowledge about one's own cognitions rather than the cognitions themselves" (p. 4). This implies being aware of the extent of your knowledge, including what you know as well as what you don't know.

In describing metaknowledge of good and poor students Holt (1964) states:

> Part of being a good student is learning to be aware of one's own mind and the degree of one's own understanding. The good student may be one who often says that he does not understand, simply because he keeps a constant check on his understanding.

> The poor student who does not, so to speak, watch himself trying to understand, does not know most of the time whether he understands or not. Thus the problem is not to get students to ask what they don't know; the problem is to make them aware of the difference between what they know and what they don't (pp. 28-29).

In addition to an awareness component, metaknowledge or metacognition includes control or regulation (Brown et al, 1982; Flavell, 1976). This control or regulation includes planning, monitoring and checking outcomes (Brown et al, 1982). A mark of intelligent learning behavior, Brown (1977) maintains, is the ability to have a conscious executive control over what is happening in a learning, problem-solving activity. "Thinking effectively is a good definition of intelligence" (p. 74).

Metacognition demands the ability to reflect on one's performance; in essence, it is a type of self-evaluation which may or may not be conscious, and which would be influenced by such factors as intelligence and personality (Brown, 1977). Too often, programs for the young stress skill and memory tasks rather than teach strategies that encourage independence through self-monitoring and evaluation of one's own learning. As Brown (1977) states, "a particularly neglected research area has been the development of efficient training programs for the developmentally young, programs that concentrate on executive functioning rather than the perfection of a specific skill" (p. 98). For such programs to be effective, however, it is first necessary to document the metacognitive performance of readers for whom a program is designed. The

present study attempts to describe the metacognitive performance while reading, of Grade 2 children.

Summary

Observing young children reading, making decisions as they read, and developing an increasing awareness of their thinking and reading processes provide the core for this study. Results of research found in the related literature indicate a relationship between metacognition and reading as process. Readers are shown as active strategists in the comprehension process, selecting and using strategies to understand and remember information.

Early teaching methods and materials stressed reading as word-based and product-oriented. Today, reading is believed by most researchers and teachers to be strategy-based and process-oriented. In addition to developing graphic perceptions, readers learn through active, natural exploration to apply cues to the syntactic and semantic facets of language and reading, constantly seeking meaning. There is no set sequence of skills or procedures in learning to read. Instead, readers gradually develop a repertoire of comprehension strategies to make sense of text. Teachers act as facilitators to assist children where/when needed and may use tools such as miscue analysis to give insight as to how children read and why they read as they do. Oral language is very important in providing the key in this communication between teacher/researcher and reader. Observation of the reading process is equally important as further evidence of the child's development as a reader.

The reader's metacognitive awareness about this process called reading can be consciously shared through oral communication with a

teacher/researcher or through acts of reading, reflecting, recalling events or answering questions. Readers, whether proficient or not, can share what they know, and show how they read; that is, whether they plan, monitor, or repair. While there may be gaps between what they say and do, readers give insight to their metacognitions by expressing their goals and strategies.

In the literature, interviews are commonly used by researchers to obtain information about metacognition and reading process from both young and older readers. Reading awareness is found to generally increase by age and ability. Instruction in metacognitive strategies promotes children's awareness of what reading is and how to do it effectively. Children learn to control or regulate this awareness consciously through planning, monitoring, and checking for meaning. Children learn to reflect on their own performance and self-evaluate. Like language learning, metacognition and reading develop in a natural, risk-free environment.

Chapter 3

DESIGN OF THE STUDY

Because of the descriptive nature of this study, qualitative methods for data collection and analysis were employed. This chapter describes the selection of student subjects, the instruments used, the data collection procedure, and the data coding and analysis.

Subjects

Students

The study comprised of six Grade 2 participants, three from each of two schools in rural settings. The superintendent gave the researcher written permission to directly contact principals who might have teachers interested in participating. The superintendent and principals were notified in advance in writing and by telephone as to the nature and purpose of the study. Principals and teachers involved in the study had been known by the researcher for one or two years. Both principals and teachers initially contacted agreed to participate, pending subsequent parent and student approval.

Teachers were asked to select, as subjects, three students from their classes, with the guideline that these children meet the following criteria:

1. achieving at or above grade level based on teacher judgement.
2. able and willing to express her/himself verbally.

3. spending her/his first year in Grade 2, and not having repeated a grade previously.

This study was deliberately designed using Grade 2 students as they were able to apply strategies in gaining meaning from the reading process and to express their awareness of how and why they applied such strategies. Yet these students were still relative newcomers to this process called reading.

Overall, an even distribution of boys and girls was selected by their respective teachers. Brief profiles of the student participants (as told to the researcher in the final teacher interview) follow. The prose descriptions, while those of the researcher, are consistent with the verbal reports of the teachers. Reflections by the researcher are in parentheses where necessary to enlighten the reader by providing additional insights. These perceptions have been confirmed by the perspective teachers who have read and approved the profiles.

Child #1 (Kate), age 7-6, is very dramatic, expressive, yet a quiet, diligent worker who sets high expectations and can be very hard on herself. She is very organized, enjoys writing and often writes in different styles for different audiences. She is able to punctuate properly and likes to write poems. She wrote in her Journal, for example, " I love reading. I esplsly [sic] like the big, big, long books! I love to read!" In spelling, she follows established rules and skills, and is able to transfer these without thinking about them anymore. She has assimilated these rules. In her independent reading she prefers books from the grade four, five, and six shelves in the library and has started taking "chapter books" like Nancy Drew and Friends Forever and other paperbacks.

Child #2 (Jeff), age 7-4, is the oldest child in the family with a little sister. His mother is a "strong presence" in his mind from many comments that he

makes such as " By the way, Mom told me I have to drink a lot of water today" or "Mom says I shouldn't do any backward rolls...I might injure myself". (His teacher went on to say that he cannot do a backward roll.) He comes up to the teacher often, wanting to talk or share ideas with the teacher. His mother is a classroom volunteer during computer time, has helped Jeff in reading and writing stories, and is very involved with extra-curricular activities like hockey. He has a wealth of background family experiences like trips to the museum to draw on for ideas when writing and speaking. He writes in fairly complex sentences and phrases, using a broad word base (sight vocabulary) in both reading and writing. Though he likes reading and language arts and gets really involved, every now and then he tends to stop when bored and leave assignments half-finished. He loves to read his Journal to an audience and seems to write with an audience in mind as he asks questions such as: "I have a nice family, don't I?" or (about polar bears) "They can go pretty fast, can't they?" He encountered some difficulties at the start of the year but with extra help at school and at home, he has improved.

Child #3 (Rob), age 7-6, loves to read and could sit in a corner and read all day. He doesn't like recess or sports much. He likes art, is very creative and has quite an imagination. Though he learns easily and is very good verbally, he doesn't have good work habits and is hard to motivate. He finds it difficult to get his ideas on paper or write a "diary". He begins when time is almost up. The amount and quality of his work varies from day to day. At the beginning of the year he did very little but now it is rare that he doesn't complete assignments. Because he has a wide background and knows plenty of information, he loves oral discussion in subjects like social studies and science.

With a younger brother and three sisters, he moved to a new school in Grade 1 and took a long time to adjust and make friends.

In reading, he is an expressive oral reader, has good comprehension especially on story details and order of events. He understands "beginning, middle, and end" concepts in both reading and writing. He writes complex sentences and is quite a good speller as he is able to use common words important in story writing.

Child #4 (Brad), age 7-9, is advanced in both reading and math as confirmed in recent testing. His mother wants him to have more challenge. Brad is very bright and finds the general pace in the class to be rather slow. He makes little comments and likes to show that he is finished first, but he is not as thorough in writing as he is in other areas. (His teacher sees part of her job as getting him to pause to put detail in his writing.) In reading, he likes to search for information and read about topics of interest such as adventure or computer games. Like his three older siblings, he is also advanced and academically oriented. In science, Brad is able to use terms connected with nuclear energy and when being introduced to the term "conjunction" in language arts, he recognized "junction".

English is not the first language in the home. A weak area for Brad might be in recognizing meaning behind figurative language, such as "to laugh up your sleeve". In reading, his interest tends toward non-fiction. In writing he prefers adventure.

Child #5 (Fay), age 7-9, is not a "real reader". She tends to like books that are of the cartoon variety and this comes out in her writing when she writes in dialogue. T.V. could be a factor here. Her mom has not directed her choice

of books. She prefers light, funny books like Garfield cartoons. She does not read enough stories or literature.

An only child, Fay loves to illustrate. (Her teacher thinks this may be tied to this "cartoon syndrome".) She writes a little and draws a lot. She likes her drawings to be perfect. She hasn't wanted to share (get up and read in front of the class or large group) her stories or poems. Perhaps she is afraid they may not be good enough. She doesn't seem to have much confidence in herself.

Compared with the class in general, she does well, understands all connections in a story, and is able to ask questions about emotions. But she has difficulty with the idea of a narrator. Her stories evolve as she writes but sometimes it is quite a struggle and a "beginning, middle, and end" story chart didn't seem to suit/help her. Because she may not have read enough stories, the chart may be too abstract for her.

Child #6 (Doug), age 7-11, has one older brother and one younger sister. He is very quiet and loves to read. His mom confirms his love of reading, also. Doug has brought in great long lists (from home) of a variety of books read. He gets plenty of family support on projects. As a recent example, his mom helped him illustrate his poem and put it on computer. He was the first in class to do this. Another time, when the class was studying communities in social studies, Doug suggested making models of some communities. He asked to take home a book related to a fishing village. This encouraged the rest of the class to build other villages.

There is a lot of home/family support and encouragement. His older sibling shares interests and lets Doug take items to school to show his class.

At the beginning of the school year, Doug seemed very serious and quiet. (His teacher wondered if he was enjoying school and checked with

Doug's mom to be sure all was well.) His Journal entries were very brief but when pressured to add more detail he would do so. (Soon the teacher discovered that Doug wrote less so he could get on to reading as he was allowed independent reading after the Journal entry was finished!)

Instruments

Student data were acquired by interviewing students and eliciting a reading behavior sample from them. Individually, students read passages up to and including instructional level from the Bader Reading and Language Inventory (Bader, 1983), in private, tape-recorded sessions. This informal reading inventory (IRI) was a key instrument in gathering data on oral reading as process. Students were questioned about strategies observed when reading and about reading in general, in addition to their interests. Oral reading miscues were recorded and analysed using a modified version of the Reading Miscue Inventory (Goodman & Burke, 1972) to determine the reading processes engaged in by the student.

Following the collection of student data, teachers were briefly and informally interviewed in an effort to provide the researcher with further pertinent information about the student participants as readers. This also was meant to provide a verification of the child as an active participant in the reading process. Interview data was used to provide a description of students as readers.

Student Interview Schedule

The Student Interview Schedule (Appendix A) was developed by the researcher to elicit information on students' reading strategies, students' interests, and memories of reading experiences.

Teacher Interview Schedule

The Teacher Interview Schedule (Appendix B) was developed by the researcher to provide additional pertinent information about selected students as readers. Open-ended questions were asked in order to reduce the influence of the questions on teachers' responses and in order to be as informal and nonthreatening as possible. The teachers did not play a central role in this research, but rather assumed an assistantship, advisor role. They provided the foregoing profiles of the student subjects.

Bader Reading and Language Inventory (Bader, 1983)

This individually administered reading test measures reading levels from preprimer to twelfth grade level. In this study only the graded passages and recall questions were used, although other tests exist within the inventory. From the three sets of passages designed for different participants, the first set of materials, designed for children, was used. In keeping with the test format, each subject's reading instructional level was established by having her/him read passages of increasing difficulty.

Supplementary Directions for Administering an IRI

This technique, developed by Fagan (1990b) for use in the Reading and Language Center, University of Alberta, was used to determine the reader's awareness of various reading behaviors. After passages were read, questions appropriate to the reader's behavior on particular passages were asked. Reading behavior was divided into two major categories: monitoring and miscues. The former focussed on behavior (corrections, pauses, repeats) that indicated the reader was "checking" while reading; the latter focussed on miscues consisting of additions, omissions and substitutions. Two instances of each, where applicable, were asked over all passages. For example, if a word was corrected, the researcher commented, "I noticed you changed your response from ____ to ____. Why did you do that? What were you thinking?" Similar questions about other behaviors such as pausing three seconds or more, repeating words, pointing, looking back over what was read, saying a word to oneself before saying it outloud, were asked by the researcher in order to ascertain the reader's knowledge of her/his reading strategies.

Supplementary Directions for Administering an IRI can be found in Appendix C.

Metacognitive Knowledge Questionnaire

When the total IRI (Bader) had been administered, eight questions (devised by Fagan and used at the University of Alberta Reading and Language Center) were asked to gather additional information on the child's metacognition (awareness) of her/his reading process and to confirm previous

data collected in this regard. Examples of questions asked are: (a) What do you mostly think about as you read? (b) Do you read some passages faster than others? Why do you do that?

These eight " Metacognitive Knowledge" questions are detailed in Appendix D.

Data Collection Procedure

Data were collected from teachers and students during the months of February and March, 1991. The order of data collection pursued at both schools began with an initial get-acquainted session, followed by a student oral reading and interview session (process analysis) consisting of five parts (interview, schema/prior knowledge, tracking "monitoring", tracking "miscues", and passage interest), and concluded with a brief meeting with the teacher.

Initial Get-Acquainted Session

An initial get-acquainted session took place between the researcher, the classroom teacher, and students. The purposes of this session were (a) to meet the class and develop rapport, and (b) to meet the teacher and establish understanding and support for the study.

Bader Reading Informal Inventory

The directions given in the manual were followed, which basically included introducing the topic of the passage, asking the child to read orally, to give a recall and answer questions.

Supplementary Directions for Administering the IRI

This diagnostic technique devised by Fagan and used at the University of Alberta Reading and Language Center, is an extended set of directions for the IRI and brings together knowledge on specific reading (cognitive) processes (including monitoring), metaknowledge, schema theory, prior knowledge, and interest in passage content. (A description of this technique may be found in Fagan (1990b).

The actual data collection consisted of these five parts:

1. Interview: Student interviews were private, tape-recorded sessions which took approximately one to one and one-half hours. The researcher worked with each student individually explaining that she was a teacher taking time to find how Grade 2 students read and what they could tell her about their reading. The student was told that in the session s/he would be asked to do some reading and answer some questions about her/his reading. The purpose of the tape-recorder was discussed (to enable the researcher further access to what was said) and the student given the opportunity to record her/his voice and listen to the playback. In order to establish rapport,

the researcher conversed further with the student prior to beginning data collection.

Before beginning the interview and reading component of data collection, the student was informed that the researcher would be writing notes to assist her later on, in remembering how the student read. Furthermore, the student was told that if s/he came to a difficult word, not to worry, just do the best that s/he could and go on.

The researcher informed the child that s/he was very important in giving information and s/he would be asked questions for this purpose. In order to establish rapport, understand the child's interests and awareness of the nature of reading, questions such as the following were asked:

"What do you like to do in your spare time?"

"What do you watch on T.V.?"

"What do you think readers do as they read?"

A complete listing of all interview questions can be found in Appendix A.

2. Schema/Prior Knowledge: Students read a series of passages first silently and then orally. According to the directions for administration of the Bader Informal Reading Inventory (Bader, 1983), a "motivation" to activate schema was given before each passage read silently by the student. After each passage, students were asked to give a retelling of the passage and to answer comprehension questions. Oral reading samples

continued until an instructional reading level was established for each student.

After each passage was read orally, the child was asked questions about her/his knowledge of the general content of the passage. The intent was to assess the child's experiences with the key concepts. Examples of questions about a passage on an accident were:

"Did you ever cut yourself at school? Tell me about it."

"Do you know anyone who got cut on the playground?"

"Have you read about accidents like this?"

"Did you think of that as you read this?"

3. Tracking the Reading Process - Monitoring: Corrections of miscues, pauses, and repeats were noted while the child read orally. Through questioning, the researcher encouraged the child to share her/his thinking about monitoring strategies by responding to questions pertinent to the passage read, such as:

"I noticed you said 'ribbit' here (pointing) and then changed it to 'rabbit'; can you tell me why you did this?"

(Pointing //) "Here, you seemed to stop for a little while. Do you remember what you were thinking?"

Questions such as these were asked after each passage.

4. Tracking the Reading Process - Miscues: Tracking miscues focusses on changes that differ from the text wording (additions, omissions, substitutions, mispronunciations). Here,

the goal was to learn *how* the child was thinking as s/he read. Questions were positive in nature and depended on the behavior observed. Sample questions were:

"You said 'stopped' here (pointing); the word was 'stooped'; why did you decide on 'stopped'?"

"Here (pointing), you read 'keep the checkers from being knocked off BY the board'. You put in BY; that was a very good choice. Why did you add BY?"

These questions were typical of those asked after all passages had been read since awareness by the readers of inappropriate reading behavior may have interfered with their subsequent performance.

5. Passage Interest: When all passages had been read, they were spread out in front of the child. The researcher pointed to and said the title of each, and the child was asked which passage was liked *best* and which was liked *least* and why. From these data it was determined how passage interest related to the reading process and metacognitive knowledge demonstrated by each student.

Teacher Interviews

Teacher interviews were private sessions which took approximately one-half to one hour. Both teacher interviews were informal with few preset questions. The researcher simply asked each teacher to describe each student participant as a reader, encouraging the teacher to give any information

deemed of possible interest to the study from the teacher's point of view. For the most part the teacher did the talking and the researcher noted (wrote) the information shared. It was felt by the researcher that tape-recording this session might hamper the quality and/or amount of information shared; that is, it might be perceived by the teacher to be threatening, and possibly prevent the teacher from being open about sharing perspectives on the students as readers. In one case the teacher offered to prepare a written record of the students as readers, but the researcher did not encourage this as she felt it was unnecessary to the study and it would add further to the teacher's already full workload. This teacher was thanked for the generous offer and the interview proceeded as originally intended.

Both teachers were initially asked to give any pertinent information (from their teacher perspectives) about the student participants as readers. They appeared to have no difficulty in relating several anecdotes about each child in relation to reading.

In concluding the interview, both teachers were open and willing to discuss their reading programs within the total classroom context. Thus, both teacher interviews were conducted in cooperative, understanding atmospheres. This enabled the researcher to gain valuable information in order to confirm observations and findings from previously collected student interview data.

Coding and Analysis of Data

Student Interviews

Interviews were audiotaped, reviewed, and transcribed verbatim by the researcher. The six student interviews were then read in three sittings to gain an initial understanding of their contents. Later they were reread and coded as to the type of information contained (i.e. which question(s) does this statement address?). One transcript was given to a second-reader, knowledgeable in the areas of reading and metacognition, to examine and recode. Any discrepancies or issues arising were discussed by the second-reader and researcher. The researcher then reread and recoded all transcripts.

After coding and reviewing each student's interview data, categories of responses to questions emerged. These categories were recorded on a checklist matrix (Miles & Huberman, 1984) and later tabulated under appropriate headings such as (a) Perceptions of Self as a Reader, (b) Awareness of Learning/Teaching Reading, and (c) Reading Development. These categories were compared to the students' actual reading strategies observed as they read.

Schema/Prior Knowledge

After audiotaping and reviewing these data, the responses were coded on a five point scale, with 5 indicating considerable schema/prior knowledge and 1 indicating little. A value of 5 was merited if the reader, in response to questions, indicated that s/he was familiar with the underlying theme of the

passage and could relate this to her/his own life experiences. The results were tabulated in order to compare schema knowledge and level of reading comprehension.

Nature of Miscues

Miscues produced by students during their oral reading at instructional level were analysed to assess how the readers processed information during reading. All miscues which occurred at instructional level, to a maximum of twenty-five, were analysed for each student and recorded on a coding form (Fagan, 1989) for analysing miscues, from which processing behavior was inferred. Within each category (analysing text, synthesizing/author schema, synthesizing/reader schema, predicting, and monitoring), miscues were scored in relation to the degree of similarity or acceptance with the text.

Analysing Text

This category determines to what extent the reader relies on the author's WORDS in making a response. Coding miscues involves judging the extent of acceptability according to the following criteria.

Y- half or more of the letters or sounds in the text word are represented in the miscue.

P- less than half but at least one letter or one sound in the text word is represented in the miscue.

N- none of the same letters or sounds are present in both the text word and the miscue. Omissions and additions are also coded as N.

Synthesizing/Author Schema

This category determines if what the reader says corresponds to the author's meaning. The sentence is the key unit here. Coding miscues involves judging the extent of similarity according to the following criteria.

Y- the miscue forms a sentence which is grammatically correct and is acceptable in relation to prior and subsequent sentences in the passage.

N- one miscue alters the author schema and, therefore, changes the whole sentence unit making it unacceptable.

Synthesizing/Reader Schema

This category determines if the reader is making sense in terms of her/his own schema. Coding miscues involves judging the extent of acceptability according to the following criteria.

Y- the miscue forms a sentence which is meaningful for the reader in relation to what the reader has said through the whole sentence.

N- the miscue forms a sentence which is not meaningful.

Predicting

This category determines the extent to which the reader is thinking ahead as s/he reads. Coding miscues involves judging the extent of consistency according to the following criteria.

Y- the miscue is semantically consistent with the preceding context.

N- the miscue is not semantically consistent with the preceding context.

Monitoring (Sentence)

This category determines the degree to which a reader is trying to make sense at the sentence level, or is aware that something needs attention and does something about it. Coding miscues involves judging the extent of acceptability according to the following criteria.

Y- the miscue is corrected unless the miscue is meaningful to a reader in which case this is indicated by a slash mark. This slash shows that the meaningful miscue does not necessitate monitoring.

N- the miscue is not meaningful and is not corrected.

Monitoring (Word)

This category differs from monitoring at the sentence level only in that here the reader is trying to make sense at the word (phrase) level. Coding miscues requires judging in the same manner as sentence monitoring but the unit examined is the word or phrase.

Reliability Check (Miscue Analysis)

Twenty miscues were analysed by another rater to establish a reliability check. The percentage of agreement regarding the classification of oral reading miscues in the five miscue analysis categories (analysing text, synthesizing author/reader schema, predicting, and monitoring) was 91.4 percent.

Tracking the Reading Process - Monitoring

All monitoring (corrections, pauses, repetitions) was audiotaped, coded and analysed in order to determine the reader's awareness of various reading behaviors. Descriptive behaviors were then tabulated to provide insight as to the nature of these miscues (unexpected responses).

The students' explanation (awareness) of their various monitoring behaviors was then compared to their actual reading performance.

Tracking the Reading Process - Miscues

All miscues were reviewed several times from the audiotapes and transcripts, then coded and analysed, before being tabulated in categories or descriptive behaviors. The students' explanation (awareness) of their various miscues was then compared to their actual reading performance.

Passage Interest

Passages most and least liked were noted, based on data audiotaped during the student interview. This information was tabulated and compared to the comprehension level of each student.

Teacher Interviews

Written reports of interviews were reviewed to gain an initial understanding of their contents. They were then reread in order to provide profiles on the student participants in this study.

Summary

Six Grade 2 student participants were selected from their two classrooms by their respective teachers, who had been recommended for participation in this study by their principals in a large, suburban school district. Of the six student participants, none had repeated a grade and all were achieving at or above current grade level.

Data were primarily collected through interviewing and observation techniques. Teacher interviews consisted of open-ended questioning to elicit information about the student participants as readers in the classroom. Student interviews involved a survey of student interests, observation and discussion of reading processing strategies, and eliciting each student's views and understanding about reading.

Student and teacher interview data were coded, categorized, and tabulated. Data on students' interests, perceptions of selves as readers, knowledge of reading development, learning and teaching of reading were tabulated.

Students' oral reading miscues were recorded and analysed using a system developed by Goodman and Burke (1972) for miscue analysis and modified by Fagan for use in the Reading and Language Center. This analysis helped determine the reading processes engaged in by the student when identifying words in context at her/his instructional reading level.

Several questions were asked prior, during. and after the passage readings in order to establish the students' metacognitive knowledge about reading, and to indicate consistency or inconsistency between the individual student's beliefs and actions. The results of the analysis and interpretation of the data are found in Chapter 5.

Chapter 4

CHILDREN'S CONCEPTS, AWARENESS, STRATEGIES AND INTERESTS RELATED TO THE READING PROCESS

This chapter presents findings on young children's reading and their metacognitive knowledge of their reading behavior. The findings are presented in five parts, with each part corresponding to the research questions posed in Chapter 1. The first section details children's concepts about reading, including information regarding children's perceptions of themselves as readers, their awareness of the learning/teaching reading relationship, their perspectives on their reading development, and how they engage in the reading process. The second section examines the nature of miscues made by the children during the reading process. The third section illustrates children's metacognitive knowledge of decisions made during and after reading. The fourth section investigates children's reading knowledge and comprehension levels. The final section deals with passage interest and comprehension levels.

To aid clarity, the findings for each section are presented in tabular form, followed by a summary which provides examples and assistance in interpreting the data. The initials of the students are used in the tables to indicate how many and which ones exhibited a particular characteristic.

Concepts About Reading

Table 4.1

Awareness of Self as a Reader

HOW DO YOU FEEL ABOUT READING?	STUDENTS
am a good reader	R,B,F,D
like reading	R,K,J
read novels, thick books	B,F,D
listen to mother, brothers read	R,B
remember stories well	R
read silently, fast	K
read at school, at home	K

In response to the question, "How do you feel about reading?", all liked reading or felt they were good readers. Half or more of the six children indicated confidence about their success as readers, seeing themselves as good readers and feeling pleasure in the activity called reading. Three liked to read thick, challenging material and two listened to other family members read.

Kate's view of the joy of reading was "I like reading a lot. I like reading in my mind...like silent, it's faster that way". She continued, "I really like it and whenever I have free time I read at school or wherever, like at home". Brad expressed a dilemma between choosing reading or T.V. as he stated, "I usually like to read but most of the time I watch T.V., usually in the evening. I read when there's a stupid show on T.V. and when I come back from school". Overall, the

children were open and willing to discuss their feelings about reading which were always positive. Some children were more talkative than others about themselves as readers. Rob, for example, provided four characteristics of himself as a reader, while Jeff only named one.

Table 4.2

Children's Awareness of Learning/Teaching Reading

HOW/WHEN DID YOU LEARN/WERE TAUGHT TO READ?	STUDENTS
mother, father helping, saying words	K,J,R,B,F
memorizing words	K,J,R,B,D
teacher(s) helping	K,J,F,D
reading at home	K,J,R,D
listening, sounding out words	K,B,F
fairy tales, rhyming books, dictionaries	R,B,D
slow to learn, reading was hard at first	K,B,D
before coming to grade 1	J,R
sounds, letters	J,F
older cousin helping	K
group work in grade 1	F
story writing	D
spelling	F
tests	D
silent reading	K
skipping unknown words, coming back later	F

Children had several common memories of how they learned or were taught to read. All but one child identified parental help and all but two mentioned teacher's help. With regard to methods, memorizing words and practice at home took precedence over sounds and letters as ways to initially learn to read. Surprisingly, three of the six children noted that reading was difficult at first. Kate explained, " I wasn't really paying attention but when my teacher sent home a book to read I had to read the whole thing. It was hard. My Mom helped me". Several children noted different text genres which they read and two mentioned reading related activities such as spelling and writing. The variety of responses indicated some dependence on adults and others for help, in addition to individual strategies such as skipping unknown words. Overall, the children responded with several interpretations of the question, demonstrating the complexity of this activity called reading and their awareness of how they became initiated into the reading act.

Table 4.3

Awareness of Reading Development

HOW CAN YOU BECOME A BETTER READER?	STUDENTS
practice reading a lot	K,J,R,B,F,D
feel confident, independent	K,J,R,B,F,D
seek parental help	J,R,B,D
sound out words	K,J,B,D
seek teacher's help	K,J,F
practice outside of school, read to self and others	R,F,D
read bigger, more difficult books	K,J,B

"guess", figure out words	K,D
remember words	K,D
ask for help	K,J
ask questions	K
read silently	R
read bigger words	B
practice in choral, group reading	F
seek help from an older sibling	D

All children in this study believed that in order to read better, one needs to practice, to be confident and independent. They suggested several ways to demonstrate this independence such as sounding out, guessing, or remembering words. Asking questions and seeking help from parents, teachers, siblings, or others in the group were other ways cited to improve one's reading. Three children felt that reading challenging material was important. Kate illustrated, "some books without pictures, good readers can make up pictures...in their mind". Doug stated that good readers "sound out words when they can't figure them out. If they can't sound, they might look at the picture to help". Readers get better by "practicing", said Fay, and "thinking what the story's about". All six children viewed themselves as better readers now that they have learned ways to improve through practice. Overall, the children demonstrated many strategies, both internal or external, in becoming better readers.

Table 4.4

Awareness of Engaging in the Reading Process

WHAT DO YOU THINK ABOUT AS YOU READ?	STUDENTS
meaning of words, sentences	K,J,R,B,F,D
skip unknown words, reread, read ahead	K,J,R,B,F,D
letters, sounds	J,R,B,D
remember, think in my head/mind	K,R,B,F
read easy passages first	R,B,F,D
question, answers	K,F,D
characters	K
events, what happens	B
topic interest, choice	F
level of difficulty	F
find place	F
imagine if you're in the story	F

Responses to this question, "What do you think about as you read?", differed from readers' perceptions of how they learned to read (Table 4.2). Where graphics might be more important in learning to read, skipping unknown words seemed more important in becoming better readers. Each reader recalled thinking about the meaning of words and sentences while reading. When meeting unknown words all readers said they would skip them; then reread or read ahead to get the meaning of the passage. Doug described his

reading process in this manner, "I always picture it in my head. It's going around and around and I never stop". This implied that he thinks back without actually stopping to do so. Fay commented, "If I don't remember what's happening in the story, I stop and think and go back". Doug stated, "When a sentence doesn't make sense, I go back and read it over... I go back and read the sentence again until I get it". As demonstrated by the previous examples, the intent of these young readers is to search for meaning in print.

To successfully engage in the reading process, four children suggested a variety of strategies: remembering and thinking, trying letters and sounds, and reading easy passages fast. To try to help remember what she has read, Kate said, "I just read the story in my mind and tell the story out loud like I'm reading it off a piece of paper". Both Brad and Doug reread to help them remember. Rob echoed Kate, "I picture it up in my head and I say it in my mind and then I say it as I go along, faster and faster, and I do it". Both Brad and Jeff suggested sounding out difficult words. While others mentioned this method, they added looking ahead or back for clues, or seeking outside help if independent methods failed.

Half the children admitted thinking about having to answer questions when reading. Kate elaborated, "You have to really think...guess what the questions will be and think of an answer...try to find the answer on the page...like in [a mystery]. I read very fast in that because I already know the answers when i start and I want to see if my answers are true, are right". She described a clue about a fruit bowl shaped like a spoon, then continued, "Sometimes it sort of tells me in the story ...and I guessed the answer right then because when I look into a spoon, I see myself upside down". Kate mentioned an internal process (answering her *own* questions) while Fay and Doug talked

about answering questions initiated by a parent or teacher. Before a book title can be entered on his "reading list", Doug remarked that "Mom always asks me questions about my story".

Overall, these young readers gave a range of 3 to 9 responses, answering questions about their awareness of engaging in the reading process. Three children were able to provide five examples and two children provided even more. Several similar responses were given, yet three children had unique replies that others did not mention. Some, like Fay, were more talkative than others. All were cooperative in their efforts to supply verbal reports about their awareness of the reading process.

The Reading Process (Nature of Miscues)

Table 4.5

The Reading Process (Nature of Miscues)

ST.	I.L.	ANALY. TEXT	SYN. A. SCH.	SYN. R. SCH.	SYN. SYNTAX	PREDICTS	M. SENT.	M. WORD
K	Y	*71	57	79	100	86	63	63
	N	29	43	21	-	14	37	37
	P	-	-	-	-	-	-	-
J	Y	57	71	71	100	100	100	100
	N	43	29	29	-	-	-	-
	P	-	-	-	-	-	-	-

ST.	I.L.	ANALY. TEXT	SYN. A. SCH.	SYN. R. SCH.	SYN. SYNTAX	PREDICTS	M. SENT.	M. WORD
R	Y	36	82	100	100	91	100	100
	N	64	18	-	-	9	-	-
	P	-	-	-	-	-	-	-
R	Y	40	47	90	100	85	71	71
	N	55	53	10	-	15	29	29
	P	5	-	-	-	-	-	-
F	Y	75	37	75	100	100	33	100
	N	12.5	63	25	-	-	67	-
	P	12.5	-	-	-	-	-	-
D	Y	9	100	100	100	100	100	100
	N	91	-	-	-	-	-	-
	P	-	-	-	-	-	-	-

ST. = student
I.L. = instruction level
ANALY. = analysing
SYN. A. SCH. = synthesizing author schema
SYN. R. SCH. = synthesizing reader schema
M. SENT. = monitoring sentence
M. WORD = monitoring word
Y = yes; i.e., high degree of print cues used
N = no; i.e., print cues not used
P = partly; i.e., partial use of print cues

* percentages

All readers in this study relied on several strategies to make sense of text (print). In their choice of strategies, readers varied. For example, Kate and Jeff employed all strategies more than 50% of the time while Rob, Brad and Doug

relied less on analysing the graphic form of words than on other strategies. Fay relied far less on synthesizing for author meaning and monitoring at sentence level than on other strategies. All readers were fairly high in attempting to make sense out of text (synthesizing reader meaning) and in monitoring for meaning at a word level.

Among all readers, the percentage of analysing text varied greatly, ranging from 9 to 75. In addition, two readers used partial print cues.

The degree to which readers were able to integrate meaning from text (print) and prior knowledge ranged from 37% to 100%. Miscues of two readers indicated that they activated schemas substantially different from that of the author.

The degree to which readers synthesized at a sentence level within her/his own schema ranged between 71% and 100% overall. Within each reader's memory framework (schema) the miscues tended to make sense. From this data, reader schema appears to be a more significant factor in reading process for these children than author schema or analysing text.

Syntax did not interfere with the children's reading. In all miscues, the rhythm of the language was unchanged.

All readers predicted to a high degree, ranging from 85% to 100%.

Among all readers the number of corrected miscues at the sentence level ranged from 33% to 100%. At the word level, their ability to appropriately change words that were confusing in meaning ranged from 63% to 100%. The majority of readers monitored equally well at both sentence and word level; however, one reader monitored best at word level.

Overall, the major processes characterizing these readers were predicting, monitoring at the word level and synthesizing in terms of their own schemas.

Children's Metacognitive Knowledge (Monitoring)

Table 4.6

Awareness of Monitoring Behavior

STUDENT	CORRECTIONS	PAUSES	REPETITIONS
K	1 SEM	1 RT	2 DK, DK
J	2 GP, SEM	0 -	2 RT
R	2 SEM, GP	2 U	2 SEM, SEM
B	2 SEM, PS	1 TB	2 RT, SEM
F	1 SEM	1 GP	2 SEM, PS
D	2 SEM, RT	1 GP	2 TA, DK

GP = checks for graphophonic knowledge, sound-letter correspondence
SEM = semantic knowledge, word/phrase/sentence meaning
SYN = syntactic knowledge, word order
BK = background knowledge, past experience
RT = reading technicalities, losing place, going too fast
PS = physio-social response, stopping for breath, blinking
TB = thinking back
TA = thinking ahead
DK = don't know
U = unclear

Table 4.7

Percent by Type of Monitoring and Stated Rationale

MONITORING	CORRECTIONS	PAUSES	REPETITIONS	TOTAL
SEM	*60	-	36	38
GP	20	40	-	15
SYN	-	-	-	-
BK	-	-	-	-
TA	-	-	18	4
TB	-	20	-	4
RT	10	20	9	15
PS	10	-	9	8
U	-	20	-	4
DK	-	-	27	12

SEM = checks for comprehension, word/phrase/sentence meaning
GP = checks for graphophonic knowledge, sound-letter correspondence
SYN = syntactic knowledge, past experience
TA = thinking ahead
TB = thinking back
RT = reading technicalities, losing place, going too fast
PS = physio-social response, stopping for breath, blinking
U = unclear
DK = don't know

* percentages

After each passage was read, the children were asked about various reading behaviors in order to determine their awareness of such behaviors. Occasionally a child was unaware or unable to express her/himself as to why the behavior might have occurred. Usually, however, s/he was able to reply and give examples.

Overall, more readers were inclined to monitor on a semantic meaning basis. Including TA (thinking ahead) and TB (thinking back), over 40% monitored in this manner. For example, Rob tried 'on way' for 'one way' and then corrected himself; saying,"I forgot the 'e', then remembered, so I did it again. It couldn't be 'on way' [laughing], so I put 'one way' ".

A small number monitored on the basis of graphophonic data. For instance, Brad changed 'stopped' back to 'stooped', claiming that he "never noticed that was one 'p' ". Kate changed 'Amy' to 'angry' noting that they "sound alike" but added, "Amy's my best friend".

A fairly large percentage interrupted their reading for physio-social type responses as opposed to cognitive ones. When Fay was asked why she had repeated the word 'it' in a passage, she replied, "I don't know. I just stopped there...maybe to take a rest, I just did it."

The basis of the monitoring seemed to depend on the kind of reading behavior exhibited. For example, corrections were usually based on meaning decisions. When Doug changed a response from 'he' to 'it', he explained that when he continued reading [pointing to 'bandaged'], " 'it' didn't make sense" so he made the appropriate change by going back. Pausing, another example of reading behavior, was mainly due to unfamiliarity with graphophonic knowledge. Fay paused to whisper a word, 'acted', and later explained, "I needed to figure out the word. It looked like 'act'. I sounded it out". Repetition was also likely to be based on meaning. An example of this was when Fay repeated 'and he hurt'; she explained the repetition in this way, "I wasn't sure...I just didn't think it made sense...then I did it again". Rob repeated 'a house to live in' commenting, "I pictured it in my head. I looked down and I thought it was there again, so I did it again".

Readers in this study were less aware of why they repeat versus being aware of why they correct and pause. When Jeff repeated "and an", for example, he suggested that "maybe I was reading too fast". On two occasions, Doug said he didn't know why he repeated a word or phrase.

All readers gave a number of responses, ranging between 4 and 6, regarding their monitoring behavior. Within this range, each child gave a variety of responses, as illustrated in the previous examples.

Table 4.8

Tracking Miscues

STUDENT	ADDITIONS	OMISSIONS	SUBSTITUTIONS
K	0 -	0 -	4 BK, BK/GP, SEM, DK
J	0 -	1 UW	4 GP, GP, GP, SYN/UW
R	2 SEM, SEM/BK	2 E, U	4 GP, GP, BK, U
B	2 SEM, RT/GP	2 SEM/SYN, RT	4 BK/SEM, BK/SYN, GP, PS
F	1 U	1 PS	4 SEM, SEM, DK, UW
D	2 DK, RB	2 RT, SEM	4 GP, GP, SEM, SEM/RT

RB = rule-based
E = erroneous
UW = unknown word

Table 4.9

Percent by Type of Miscue and Stated Rationale

MISCUE	ADDITIONS	OMISSIONS	SUBSTITUTIONS	TOTAL
SEM	*36	19	21	23
GP	7	-	35	23
BK	7	-	15	10
RT	7	25	2	8
U	14	12.5	4	8
DK	14	-	8	8
UW	-	12.5	6	6
PS	-	12.5	4	5
SYN	-	6	4	4
RB	14	-	-	2.5
E	-	12.5	-	2.5

* percentages

After all passages were read, each child was asked to comment on examples of various miscues that occurred over these passages. Overall, nearly half of the explanations for miscues were evenly divided between rationales based on either semantic or graphophonic strategies. As an example, in substituting 'laying' for 'lying', Jeff said his word "would fit in the sentence" and he conceded that he didn't know the other word. He made a similar substitution with 'wondered' for 'wounded', explaining that they looked alike.

A small number of miscues on the basis of syntax in combination with background, semantic, or unknown word knowledge occurred. For example, Brad explained reading 'to the points' rather than 'at points' because, "I'm not used to saying it that way", implying that this response was based on past experience and word order, or what seemed most familiar.

Generally, the type of miscue seemed to depend on the kind of reading behavior exhibited. Additions, for example, were mainly due to semantic reasons. When inserting 'by' in the text, 'The holes will keep the checkers from being knocked off [by] the board by her arm', Rob explained, "Well, it makes sense because I just made up a word 'cause I thought it was gonna be off the board". Omissions were most often based on reading technicalities such as loss of place or rushing. When omitting 'the', Brad said, "sometimes I do it...don't notice it...blends in with the words". Doug omitted 'the board by her arm' because "maybe I was trying to go too fast". Brad, upon completion of a passage, immediately asked, "Did I skip a line?" He continued, by pointing out a sentence that he had indeed skipped and said, "First I was reading this [pointing], and then I saw two 'eyes' but I already thought I read this one [pointing]". When asked why he thought he may have missed a part, he replied, " Because I looked at this line [pointing], and I thought 'an arrow' and I sort of remembered that I never read it". Substitutions were based equally on graphophonic knowledge and a combination of meaning and past experience strategies. Jeff substituted 'Mrs.' for 'Miss' because "it had two [letter] s's in it", and 'eagle' for 'eaglet' because "they look the same". Rob said 'in' rather than 'into' because "sometimes it's in fairy tales and I remember some fairy tales and I think it was gonna be one there but it wasn't so I put it in". When reading 'stopped' for 'stooped', Rob stated that "it sounded like he [the main character]

slowly went up, stopped on it, looked at it and fixed it". Fay, on the other hand, said 'something' for 'accidents' because "our teacher told us to put 'something' or just skip it". Several other reasons were given for substituting text, such as Brad's explanation of "blinking", and Brad in another instance predicting, "I look at the beginning...and then I know what the word is usually" (volcano/volcanic).

Readers were less aware of why they inserted (added) text versus their awareness of substitutions and omissions. When Doug inserted 'still' in a sentence, 'and she will [still] be able to do more things', he was unable to think of and express a reason. Yet a rule-based reason for inserting text is later supplied by Doug who says, after adding 'and', "I should have remembered that 'and' can't start off a sentence".

All readers in the study gave a number of responses regarding their miscues, ranging between 4 and 8. Within this range each child gave a variety of responses, as noted in the previous examples.

Young children had several ways to explain their complex reading behaviors. With few exceptions, waiting until all passages had been read did not deter readers from supplying explanations for their miscues.

Readers' Awareness of Monitoring Behavior and Miscues and Actual Reading Performance

To examine the relationship between what the children said and what they did, their knowledge of monitoring and miscues was compared to the miscue analysis data.

As the students were engaged in reading they were more inclined to focus on semantic cues (predicting, synthesizing within their own schemas,

monitoring for meaning at a word or sentence level). When the students verbalized their behavior, they were also inclined to stress the significance of meaning in their decisions. Their verbalizations also provided insight into the nature of the variation which occurred. To illustrate, an analysis of the nature of the miscues showed that the children also monitored on the basis of graphophonic knowledge; for example, their verbalizations indicated that pausing was likely to occur due to lack of graphophonic knowledge, whereas confusion regarding meaning was more likely to trigger a repetition or correction.

Overall, there seemed to be a definite relationship between what the children did and what they said they did.

Schema Knowledge and Comprehension Levels

Table 4.10

Schema/Prior Knowledge and Comprehension Level

STUDENT	PASSAGE	COMPREHENSION (%)	SCHEMA KNOWLEDGE (1-5)
K	1	80	4
	2	91	4
	3	83	4
	4	64	3
	5	57	3
	6	14	1

STUDENT	PASSAGE	COMPREHENSION (%)	SCHEMA KNOWLEDGE (1-5)
J	1	55	3
	2	75	3
	3	57	3
	4	36	2
R	1	82	5
	2	75	4
	3	71	3
	4	21	2
B	1	88	5
	2	71	4
	3	61	4
	4	46	5
	5	57	2
	6	50	3
F	1	64	4
	2	50	2
	3	64	5
	4	38	1
D	1	91	4
	2	75	4
	3	64	5
	4	39	2

Comprehension levels based on recalls and questions following oral reading were determined for all passages. Schema knowledge was based on background and interpretive knowledge, consisting of a mean number of ideas per passage including elaborations, examples or quotes. This was then rated on a scale of 0-5, with 5 being the highest level.

From an analysis of the table data, it generally appears that the higher the comprehension level, the higher the schema knowledge. Brad and Doug demonstrated a few exceptions, however. Brad had extensive background knowledge in the content areas. While he had some difficulty recalling actual passage details, he was able to discuss the subject of the passage (early tools, for example) based on his extensive reading and interest in the topic. Doug recalled meeting a handicapped person at school and was able to provide details of this event. When children approached frustration level in their reading comprehension, their schema knowledge levels decreased.

In order to determine if a relationship existed between degree of schema knowledge and level of comprehension on the passages read, the data are presented in graphic form in Figure 4.1. All passages read (at both instruction and frustration levels) were analysed in terms of schema/prior knowledge and comprehension level.

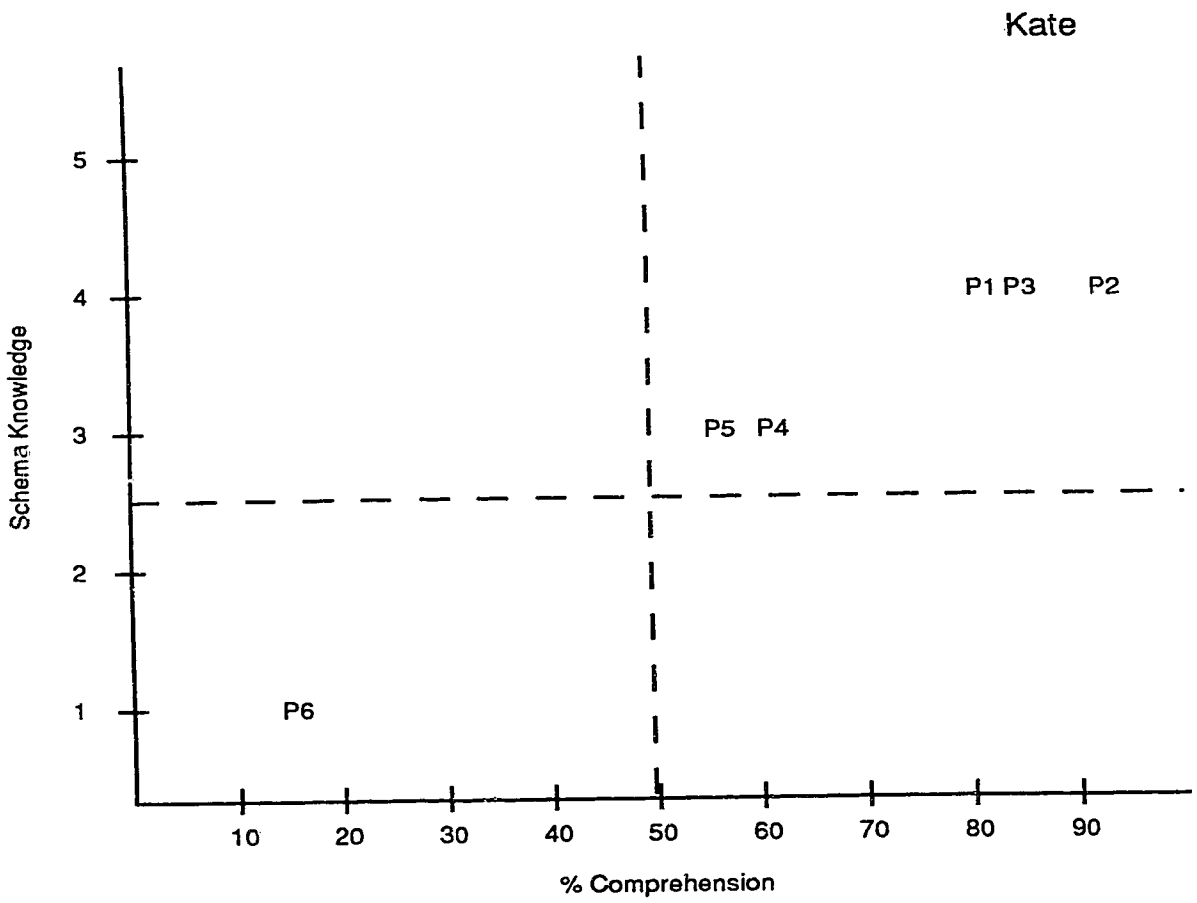

Figure 4.1a: Schema Knowledge and Comprehension Level/Kate

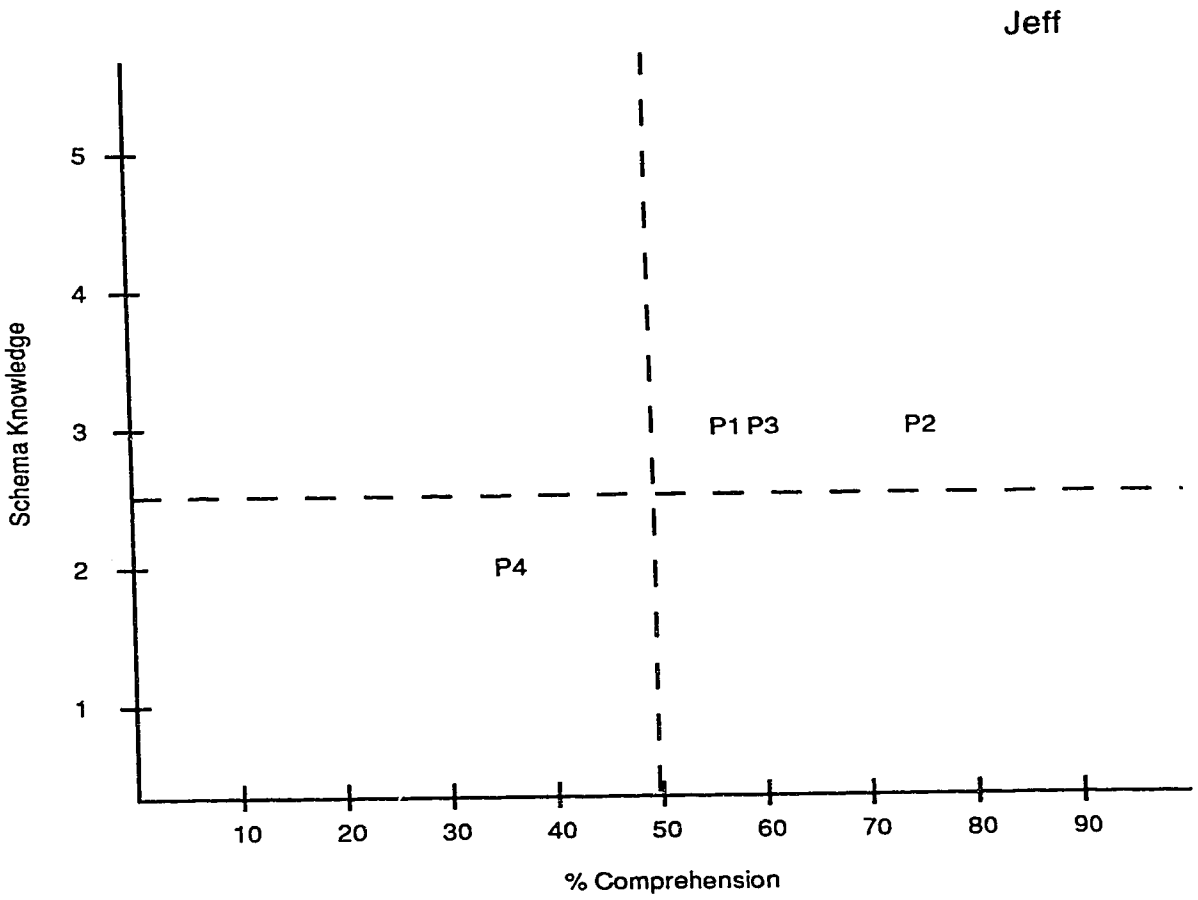

Figure 4.1b: Schema Knowledge and Comprehension Level/Jeff

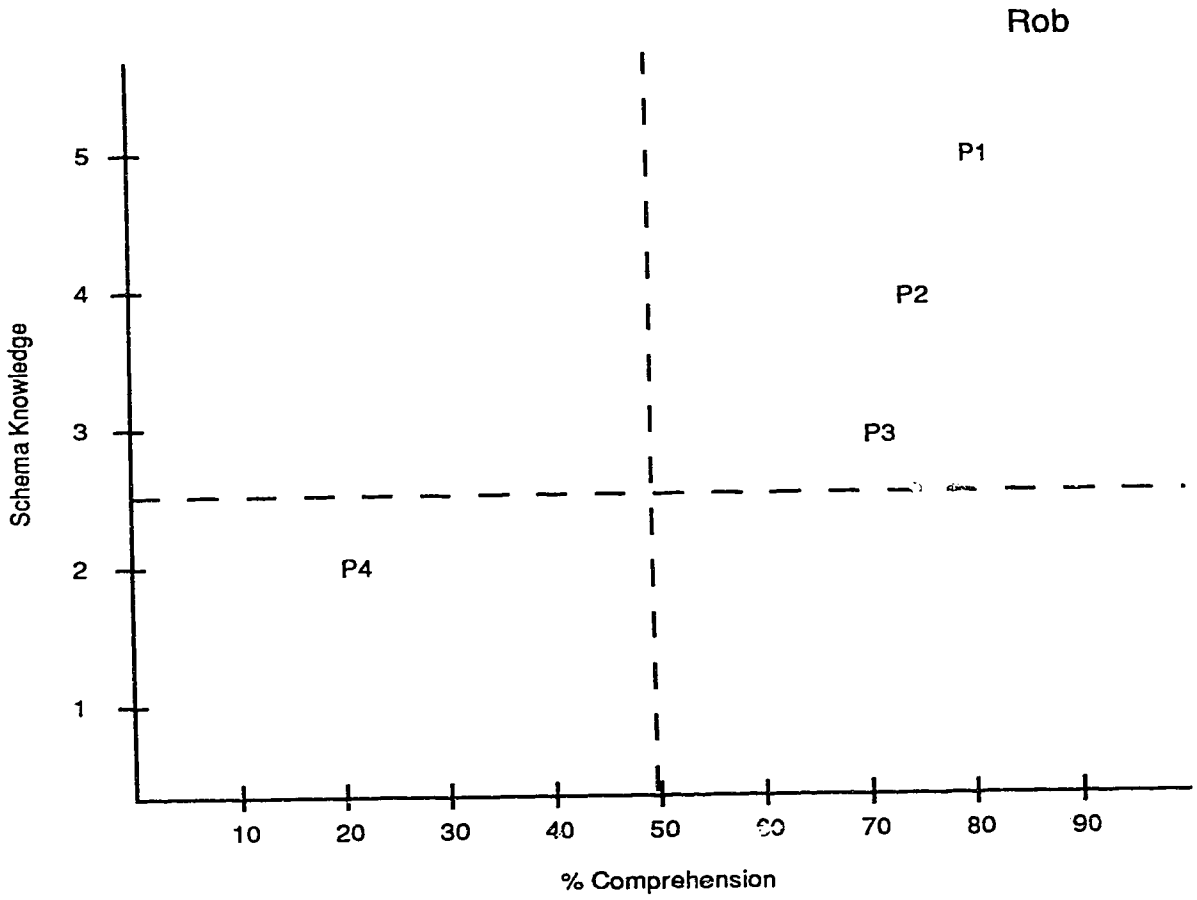

Figure 4.1c: Schema Knowledge and Comprehension Level/Rob

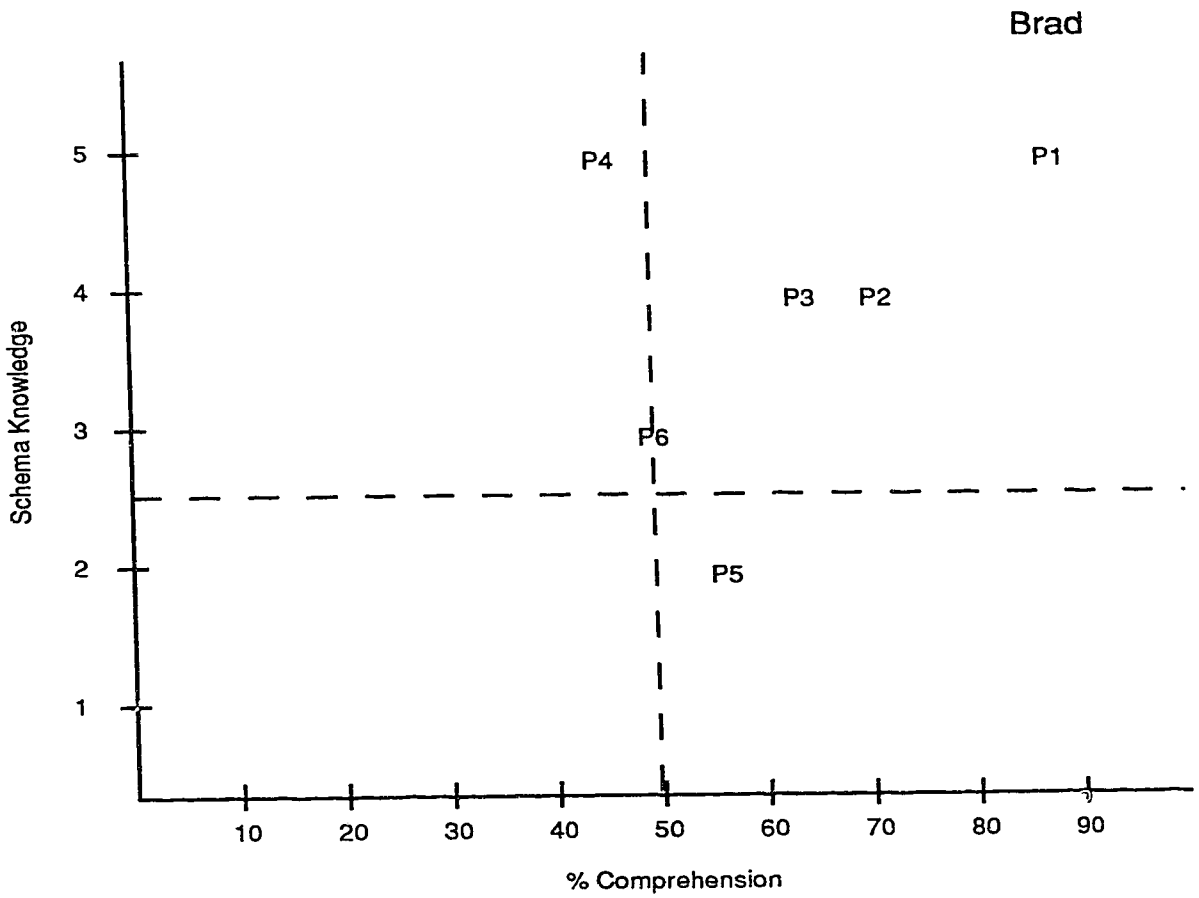

Figure 4.1d: Schema Knowledge and Comprehension Level/Brad

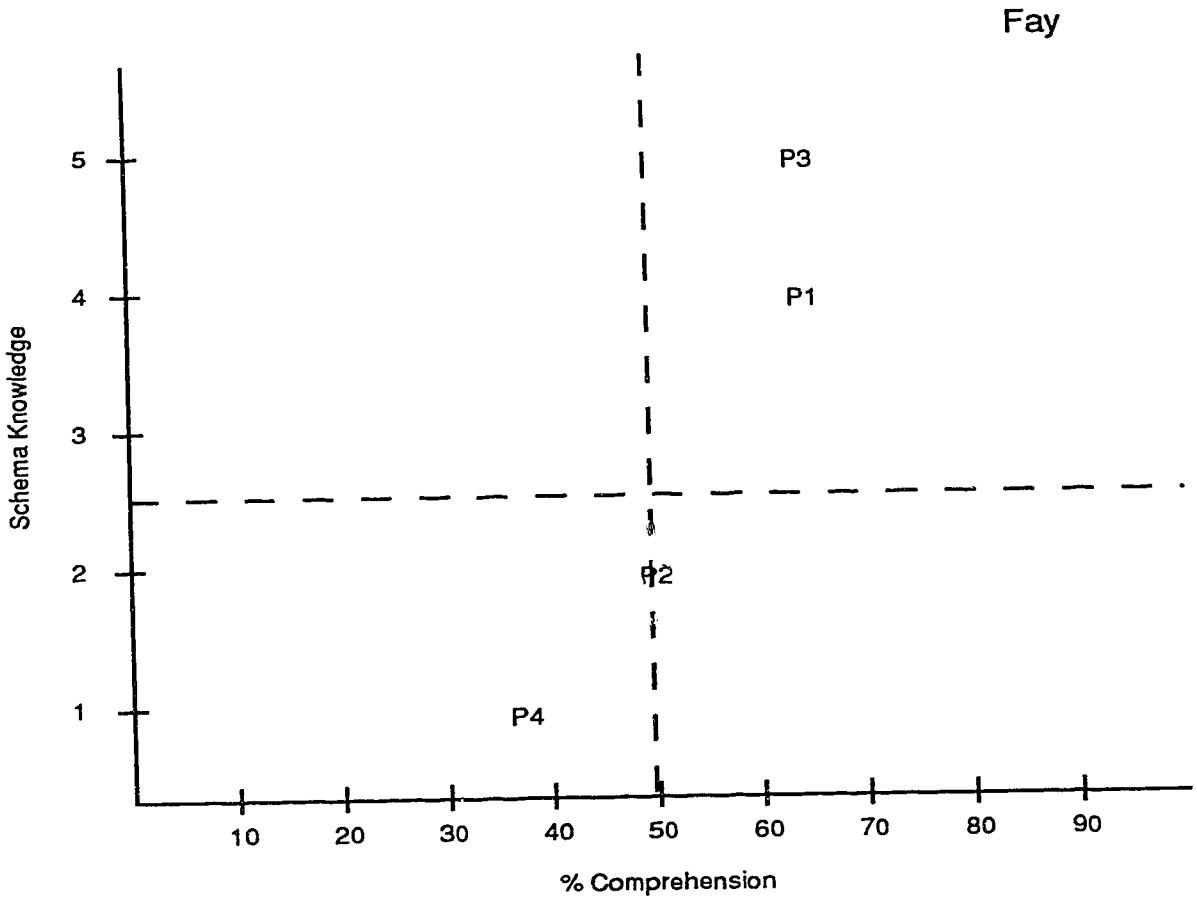

Figure 4.1e: Schema Knowledge and Comprehension Level/Fay

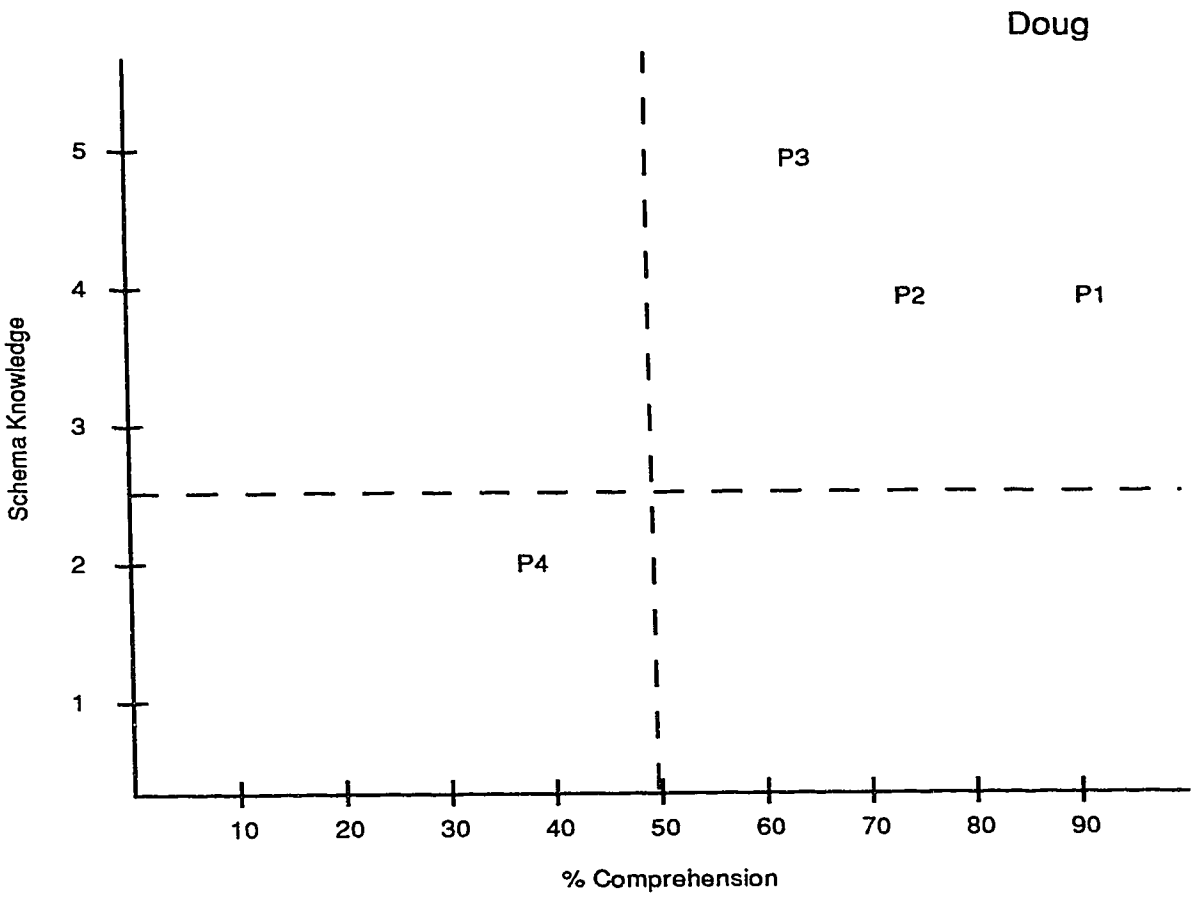

Figure 4.1f: Schema Knowledge and Comprehension Level/Doug

The data in these graphs suggest that, overall, the higher the degree of schema knowledge, the higher the comprehension score and vice versa. All but one reader (Brad) demonstrated higher comprehension on passages for which there was most prior knowledge, and vice versa.

Brad showed definite strength in prior knowledge, even when passages became difficult. He was also the strongest of all six readers in comprehension, probably at least partly due to his superiority in prior knowledge.

Passage Interest and Comprehension Levels

After all passages were read, children were asked to choose the most and least liked passages and explain their choices. In order to provide a better understanding of how interest and performance relate, the data are graphed as Figure 4.2.

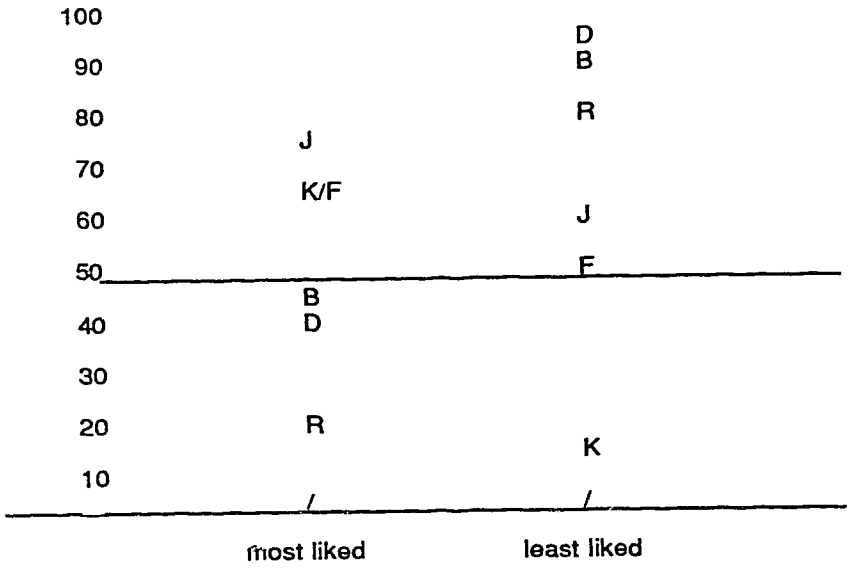

Figure 4.2: Passage Interest and Comprehension Level

Overall, there doesn't appear to be a clear cut relationship between passage liked and level of comprehension. Highest scores were made on least liked passages by three of the children.

The least liked passage for Kate was a passage at frustration level, chosen because "it is about tools...I don't use tools". Rob liked a frustration level passage the most because it had a "happy ending" and he sympathized with the hurt animal in that passage. Brad liked a rather difficult passage because he "learned how they made tools in early days". He didn't like an easier passage because you "don't learn anything new [in this] boring, little

story". He expressed a desire to learn new things, to be challenged. Doug liked a difficult passage best because "it had lots of story and words" and liked a short, easy passage least, because it was the "opposite...shorter story with not so many words". Again, a desire to be challenged by reading level or length of passage and, perhaps, quality of action ('lots of story') is expressed.

Several children picked the difficult passages as their favorites. They did not enjoy the easier "cinchy" passages as might have been expected.

Summary

From the data presented in the preceding tables and figures it seems that:

1. The Grade 2 children of this study felt good about themselves as readers.
2. Parents and teachers were equally seen as helpful in assisting children learning to read.
3. The children identified many strategies (both internal and external) in becoming better readers.
4. The major processes characterizing these readers in making sense out of text (print) were synthesizing within a reader schema, monitoring at the word level, and predicting.
5. The children most often monitored on the basis of semantic knowledge, but the reasons for monitoring seemed to depend on the nature of their reading behavior.
6. The children most often miscued on the basis of either semantic or graphophonic knowledge. The reasons for

miscues seemed to depend on the kind of reading behavior exhibited.

7. With few exceptions, schema/prior knowledge appeared to be a significant factor in how children comprehended what they read. In most cases, there was higher comprehension on passages for which there was most prior knowledge and vice versa.
8. Interest did not appear to be a factor in how well the children comprehended what they read.

An analysis of students' behaviors when reading indicated that they used several strategies to gain meaning from print. Usually they seemed aware of their strategies and were able to discuss them with the researcher. Some students elaborated on their reading process more than others but all were able and willing to make contributions.

Chapter 5

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

This chapter briefly summarizes the study and offers conclusions based upon a synthesis of the research results. Many of the research findings have implications for stakeholders in education, including teachers, reading specialists, those involved in the professional development of teachers, and educational theorists. The final section of the chapter offers suggestions for further research in the area.

Summary

The purpose of the study was to observe six Grade 2 children reading orally, making decisions as they read, and to determine their awareness (metacognition) of the decisions they were making. The study described how the children felt about and engaged in reading, by examining the nature of their miscues and the extent of their awareness with regard to these responses. In addition, readers' prior knowledge and interests were examined and compared to their comprehension levels on specific passages.

Data for analysis included interviews with students and teachers. The researcher conducted an individual interview-reading session with each student participant. Data from these sessions were audiotaped, transcribed, coded, categorized, and tabulated. Teacher interviews provided additional, supporting information to enable the researcher to create student profiles.

Conclusions

1. Grade 2 readers were aware of how they processed print and were able to articulate this knowlege.

By having readers report what they were doing before, during and after the actual reading task, it was possible to determine their awareness of decisions they were making while reading. Actual processing strategies used were observed and recorded, confirming that the children did what they said.

Some researchers question whether young readers can articulate their reading behavior. For example, Phifer and Glover (1982) discuss the problems and limitations (readers' verbal ability and their ability to remember) in gathering data through verbal reports from young children. They add that young readers' verbal reports frequently do not coincide with their actual processing. This claim was not confirmed here. In this study, young readers did actually articulate their reading behavior. Given clear, short questions, a comfortable, trusting atmosphere, and adequate "thinking" time, these readers articulated their awareness with few difficulties.

Overall, the nature of awareness appeared to depend on the type of reading behavior. Most readers monitored for semantic (meaning) reasons. Repetitions and corrections were usually based on meaning, while pauses were often based on unfamiliarity with graphophonic knowledge. Readers usually miscued on either a semantic or graphophonic basis. In most cases, additions were due to semantic reasons, omissions were due to reading technicalities (loss of place or rushing), and substitutions were due to graphophonic strategies, along with semantic and background knowledge strategies.

2. Confidence, independence, and a desire to practice were common among the Grade 2 readers.

The students felt good about themselves as readers, as shown by Brad who said, "I hardly ever read little kids' books. I read novels and what some of my [older] brothers read". Fagan (1987) feels that "affective states [attitudes] may block or enhance effective cognitive functioning" (p. 27). In this case it seemed that positive affective states enhanced good reading. The teacher is challenged to understand, model and nurture positive attitudes toward reading.

3. The children perceived parents and teachers as having major roles to play in helping them read.

The children felt that their growth as readers was due to a large extent to the assistance provided by both teachers and parents.

Knowing how children initially learn to read can assist parents and teachers in their crucial role as supportive mediators, answering children's questions and helping them to connect old meanings (prior knowledge) to new. As Genishi and Dyson (1983) claim, "This ability to reflect upon our experiences is seen as the heart of higher level cognitive functioning by researchers and theorists...Bruner (1966), Piaget and Inhelder (1969), Vygotsky (1962, 1978)". One may question whether these children who indicated they found learning to read, difficult, would have found it easier, had their teachers/parents been more aware of early reading as process.

4. Several strategies (both internal and external) were perceived by the readers as helping them to improve their reading.

The students generally were aware of the strategies they used and they used them to make sense from print. Some knew several strategies and were able to use them more effectively than others. Paris (1985) points out that

strategic behavior improves learning and can be taught/learned. Both Palincsar and Brown (1985) and Paris, Lipson, and Wixson (1983) found that approaches that emphasize students' awareness of their own strategies and alternative strategies as well as techniques for self-monitoring result in sizable gains in comprehension performance.

5. These young readers focussed on making sense out of print.

When comprehension broke down, the young readers deliberately tried different "fixing" strategies, becoming independent through this "trial and error" process until they found something that "worked". Occasionally they asked others for help, but often they persevered on their own, until they were satisfied that the problem had been solved. Fagan (1987) notes that when a reader miscues and is content that the miscue makes sense, this "reflects a strong reader characteristic rather than a weak one. This reader knows that meaning is important in reading and is searching for it" (p. 76). Often, readers correct their miscues by monitoring (checking) their reading. Baker (1979) lists three different types of comprehension monitoring: "making sure that the individual words are understood... checking that the ideas expressed in the text make sense and are consistent with one another...and...[considering] how the ideas expressed in the text relate to what the reader already knows" (p. 3-4). All three instances occurred in this study, but monitoring at the word level was more prevalent than that at the sentence level. Background knowledge (past experiences) appeared to have an effect on this monitoring process, as Brad pointed out when he changed a response, because "It sounded O.K. I'm sort of used to saying it that way".

6. (Schema/prior knowledge) was a factor influencing passage comprehension and vice versa.

There seemed to be a definite relationship between degree of prior knowledge about the content of a passage and the level of comprehension attained.

If teachers take steps to determine students' prior knowledge and background experiences related to a topic, they gain insight to students' successes or difficulties in the comprehension of that topic and can provide appropriate learning opportunities in accordance with this information and the particular situation. Readence, Bean and Baldwin (1985) confirmed that a facilitating relationship exists between prior knowledge and comprehension in the content areas. Fagan (1987), Goodman (1973) and Smith (1982) believe that readers must be helped toward independence in applying various successful strategies to gain meaning from text, regardless of the particular context. Enhancing prior knowledge and comprehension should lead to more independence.

Implications

Implications For Teachers

1. Teachers need to be aware of students' perceptions about reading and how these perceptions interact with the reading process. The procedures described in this thesis are suitable for obtaining that information.

2. Teachers need to take opportunities to increase their understanding of reading process through reflection, reading and discussion of theory and practice with other teachers, consultants, and specialists in the field.

3. Teachers should help their students acquire a range of strategies so that if one is not effective, the students have other options.

4. Because of the importance of prior knowledge, teachers must ensure that their students have adequate background knowledge for what they are expected to read.

Implications For Educational Theorists

1. There is evidence which suggests that when reading, young readers choose from and integrate several strategies when seeking meaning from print. They are able to explain what, how, when, and why they act as they do. Since this awareness exists in young children, it may be time to consider the generation of theory based on metacognition and reading with early readers' experiences, rather than concentrating on older readers.

Recommendations for Further Research

1. If, as cited in Chapter 4, teachers and parents are seen as equally helpful in assisting children in learning to read, more research is warranted on the effect of teacher and parent influence on early reading. The connection between metacognition and reading process with younger children needs to be explored in depth.

2. A case-study approach would allow for more in-depth data collection and analysis of a reader's beliefs and awareness of reading process. More students at several levels of achievement could be selected to determine the consistency of students' beliefs and actions.

3. To provide a more complete picture of students' awareness of reading process, a similar study could be designed in which the purpose is to determine students' awareness of silent reading, as well as oral reading which was the focus of this study.

4. Repeating the study, using different methods of data collection, such as a critical-incident method, would enable the determination of the influence of data collection procedures on the findings.

5. This study dealt with six Grade 2 students. Possibly one could view these same Grade 2 students, once a year, through their elementary grades to observe the progression, development, and relationship between metacognition and reading process. If one could follow children from pre-school through Grade 3, it would prove interesting to see the development of metacognition and reading in such a longitudinal study.

Conclusion

The study's primary purpose was to find how young children read orally, how they perceived reading and to what extent they were aware of their decisions made during the reading process. All children cooperated, expressing their perceptions in a nonthreatening, trusting atmosphere. Although some were more talkative than others, all had insights. They were able to share their thoughts about the reading process.

Some common strategies were demonstrated and identified, while some variations occurred also. All readers miscued several times over the total number of passages read. All were usually able to verbalize reasons for their miscues. In the classroom, similar observations can be made by either informal or formal means. "This information", Fagan (1987) states, "should allow teachers to determine if their present materials and methods are effective and if not, then they must incorporate changes (p. 94). Thus, reading teachers' professional responsibility to become informed regarding the nature and the teaching/learning of reading for young students cannot be understated, especially if, as Palincsar et al (1985) claim, comprehension is an active, constructive process; a thinking process before, during, and after reading; and an interaction of the reader, the text, and the context.

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APPENDIX A

Student Interview Schedule

STUDENT INTERVIEW QUESTIONS

1. I understand that you are a fairly good reader. Is that so? Tell me about it.

2. How do you feel about reading?

3. What do you like to read mostly?

4. What don't you like to read? Why?

5. What can you do to become an even better reader?

6. Does anyone help you to read? (Teacher? Parent? Sibling?) How does s/he help?

7. Do you ever help yourself improve (get better) in reading? When? How?

8. What do you think good readers do as they read?

9. How did you first learn to read?

10. How does the teacher teach reading to you?

11. Do you ever read when you are not in school? What are some things you read which are not a part of school?

12. What do you like to do in your spare time?

13. What do you watch on T.V.?

14. What do you think readers do as they read?

15. Do you ever stop to think about what you read? (probe)

16. How were you taught to read?

APPENDIX B

Teacher Interview Schedule

TEACHER INTERVIEW QUESTIONS

These questions are guidelines, only. The teacher interview is to be as open-ended as possible. Questions asked may depend on the teacher's response to the initial question.

1. **Within the classroom setting and possibly outside that environment, what is this student like as a reader?..**(clarify, ask for examples, probe)

2. **Can you tell how the child participates in reading related activities?**

3. **Given the purpose of this study, what other information about the child do you think might be of interest?**

APPENDIX C

Supplementary Directions for Administering an IRI

SUPPLEMENTARY DIRECTIONS FOR ADMINISTERING AN IRI

Tracking the Reading Process After Particular Passages (Strategy Use)

The purpose of this task is to determine the reader's awareness of various reading behaviors.

The questions asked must be appropriate to the reader's behavior on that particular passage. Only one question type per passage is to be asked. Two instances of each question should be asked over all passages.

1. (If a word is corrected.) **I noticed you changed your response from _____ to _____. Why did you do that? What were you thinking?**

2. (If there is a long pause - 3 seconds or more.) **I noticed you stopped here for a while. Why? What were you thinking?**

3. (If the child repeats words.) **I noticed you said this part over again. Why? What were you thinking?**

4. Ask similar questions about other behavior such as pointing, looking back over what was read, saying a word to oneself before saying it outloud, etc.

APPENDIX D

Metacognitive Knowledge Questionnaire

METACOGNITIVE KNOWLEDGE QUESTIONNAIRE

(when the total IRI has been administered)

1. When you are reading and come to a word that is difficult to pronounce, what do you mostly do?

2. If you are reading along and lose the meaning of what you are reading, what do you mostly do?

3. Do you ever stop and think about what you are reading? Why?

4. Do you ever go back and read over something? When? Why?

5. When you are reading, do you think about having to answer questions? Does this change how you read? How?

6. Do you do anything to try to help you remember what you are reading? What?

7. What do you mostly think about as you read?

8. Do you read some passages faster than others? Why do you do that?