An Exploratory Study of Children's Reading Comprehension of the Demonstrative *That*

by

Edwin Alexander Nicholls

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EDWIN ALEXANDER NICHOLLS

A thesis submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

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ABSTRACT

The purpose of this study was to explore the ability of grade 2, 3, and 4 children to comprehend three forms of the demonstrative that. In addition, their responses to the questions on the Test for Identifying Forms of a Demonstrative (TIFDR) were examined as to possible causes underlying incorrect responses after their oral reading. Thus the two main questions and a related question were:

1. Will there be significant differences across three grade levels and across three ability levels on the subjects' ability to comprehend the anaphoric demonstrative that?
2. Will there be significant interaction among the three variables grade ability, and Test for Identifying Forms of a Demonstrative Referent (TIFDR)?
3. What possible causes can be found for the errors among the three forms of the demonstrative that?

The 54 subjects in the sample were selected randomly from six intact classroom from two suburban Winnipeg schools. They were assigned to three reading ability levels low, middle and high on the basis of their scores on the reading subtest of the Stanford Achievement Test.

The TIFDR was designed to test the subjects comprehension of the three forms of the demonstrative that. It was administered during the last week in May and the first week in June 1984.

After a descriptive analysis of the data, a three way Analysis of Variance (ANOVA) with repeated measures was used to determine whether TIFDR scores varied across grade and ability levels and for the three forms of the demonstrative. A Neuman-Keuls Multiple Comparison Test was used to identify significantly different means. In addition, a frequency count was performed to determine possible causes for errors made while processing the three forms of the demonstrative after oral reading.

Based upon the results of the study and bearing in mind the limitations of the study, the following main conclusions were drawn:

1. A child's ability to comprehend three forms of the demonstrative that appears to increase as grade level increases.
2. A child's ability to comprehend three forms of the demonstrative that appears to increase as reading ability increases.
3. The ability to comprehend extended and text forms of the demonstrative appears to be more difficult than comprehending the nominal form.

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NATURE OF THE STUDY

In recent years there has been a marked interest in the study of the relationship between reading and language. This interest is largely due to the comprehensive study, Cohesion in English by Halliday and Hasan (1976) which provides considerable insight into English usage.

According to Halliday and Hasan, cohesion refers to the relationship of the parts of a text. They argue that this relationship must be understood before understanding of a given text can occur. One essential aspect of cohesion is that elements of text are interdependent and that one element presupposes or is interpreted in relation to another. One factor that contributes to cohesion in text is reference and when the reference is to a preceding text, it is referred to as anaphora. In the example which follows, comprehending the demonstrative that presupposes an understanding of its relationship with its referent **the broken fuel pump.**

> The mechanic showed his customer **the broken fuel pump** He said, "**That** must be replaced before you go anywhere."

In her article, "What is the Value of the New Interest in Reading Comprehension," Durkin (1981) devoted considerable attention to the role played by anaphoric devices. She con-

cluded that even in her condensed account of anaphora there was enough evidence to suggest that anaphoric devices "...are apt to cause comprehension problems for children"(p. 35). She also pointed out that research into children's ability to deal with anaphora was limited. In her 1981 investigation of how anaphora was handled in five basal reading series, she observed that "Comprehending connected text requires knowing the referents for whatever anaphora authors choose to use"(p. 533).

One frequently used form of anaphora is demonstrative reference. While Bessemer (1972) identified demonstratives as one of the function words which should be considered for research into comprehension problems, there has been limited research into children's ability to comprehend demonstrative referents. Bormuth et al. (1970) and Lesgold (1974) included noun phrase and clause demonstratives in their studies. Though the results of the two studies were contradictory, they added concrete findings about how well children comprehend these two forms of demonstrative. A recent study by Chapman (1983), which had 11- and 12-year-old subjects replacing deleted demonstratives, resulted in the finding that for many of these subjects this task was difficult.

STATEMENT OF THE PROBLEM

Given that anaphoric demonstratives, which have the potential to affect children's reading comprehension, occur frequently in written text and that there is a dearth of research involving demonstrative, there is a need to explore children's comprehension of these anaphoric pronouns.

Thus an area of study was identified:

How accurately do grade 2, 3, and 4 students comprehend three forms of the anaphoric demonstrative <u>that</u> in instructional reading materials? This question has been translated into a series of hypotheses:

1. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three grade levels 2, 3, and 4.
2. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three ability levels high, middle, and low.
3. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three forms of the demonstrative nominal, extended, and text.

4. There will be no significant interaction between the variables grade and ability.
5. There will be no significant interaction between the variables grade and TIFDR.
6. There will be no significant interaction between the variables ability and TIFDR.

In order that some insights may be gained from students processing of the demonstrative that, a secondary but related question was explored:

What possible causes can be found for the errors among the three forms of the demonstrative that?

DEFINITION OF TERMS

A number of terms are used in the study with specific definitions:

1. Demonstrative: For the purposes of this study the demonstrative is the anaphoric demonstrative that.
2. Forms of the Demonstrative: There are three forms of the demonstrative that: nominal, extended and text.
   a) Nominal- The demonstrative that is nominal when the referent for the demonstrative is a noun or a noun phrase. For example,

      > The children watched the young bird gobble down **the worm** greedily. **"That** is his lunch," one of them commented.

      The nominal referent for **that** is **the worm.**

b) Extended- The demonstrative **that** is extended when the referent is longer than a noun or noun phrase but is an identifiable portion of the text. For example,

> When the boy saw **the small pony, which had a shiny silver saddle,** he jumped up and down. Then he turned to his father and said, **"That** is what I want for my birthday!"

The extended referent for **that** is **the small pony, which had a shiny silver saddle,**

c) Text- The demonstrative <u>that</u> is text when it refers to a report or to a fact which is not an explicit portion of the text. In the example,

> The teacher pointed out that since the Dairy Queen was on the way home they would stop for a treat. The class agreed with **that.**

the text referent for **that** is the teacher's idea to stop at the Dairy Queen for a treat on their way home.

3. <u>Reading Ability Levels</u>: The three reading ability levels of high, middle and low were based upon the scores the subjects obtained on the reading subtest of the <u>Stanford Achievement Test</u>.

4. <u>TIFDR score</u>: The score that is assigned for the Test for Identifying Forms of a Demonstrative Referent (TIFDR).

ASSUMPTIONS

In spite of the fact that the TIFDR passages had been removed from the larger contexts provided by the original instructional reading materials, it was assumed that sufficient context remained to enable the subjects to answer the TIFDR questions. (The TIFDR passages and questions may be found in Appendix C p. 83.)

LIMITATIONS

Due to timetabling limitations and awareness of children's attention spans, some of the TIFDR passages were not read orally by all subjects.

OVERVIEW OF THE STUDY

The study is designed to explore the ability of grade 2, 3, and 4 children to comprehend three forms of the demonstrative that. In addition, the study examined the subjects' responses to gain some insight into causes underlying errors that occurred when processing referents for this demonstrative.

In order to investigate the hypotheses, the data was analyzed using a three way analysis of variance (ANOVA) with repeated measures for the one within factor (type of reference), and the two grouping factors (grade and ability). The Neuman-Keuls Multiple Comparison Test was used to iden-

tify significantly different means. In order to investigate the causes underlying errors that occurred, oral reading was taped and responses were recorded; a frequency count was done of the types of errors that the subjects made and whether the responses after oral reading were correct or incorrect was tabulated as well.

The description of the study includes Chapter 2 which identifies the relationship of the problem to previous research; chapter 3 describes the methods used to research the problem and the statistical techniques used to process the data. Chapter 4 presents the results of the analyses of the data while Chapter 5 includes a summary of the research, conclusions, implications for classroom practice, implications for developers of instructional reading materials and for curriculum developers plus suggestions for further research.

Chapter II

REVIEW OF THE LITERATURE

Of the many factors examined which influence reading comprehension, language recently has been receiving considerable attention. Researchers and educators have been intensifying their investigations into the ways in which readers use syntactic and semantic cues.

Psycholinguists have been concerned particularly with the study of communication through language. Their studies focus on questions such as:

1. What does one know when one knows language?
2. How does one use language knowledge when producing or comprehending speech or text?
3. How does one acquire knowledge about language and use it in processing spoken or written language? (Aulls, 1983, p. 5)

According to psycholinguists, the foundation upon which the reading process is built is language competence (Aulls, 1983). Describing language and thought as interactive, Goodman (1976) joined Smith (1978) in examining the role of language in the reading process by breaking language down into two levels: surface structure and deep structure.

> The surface structure of written language is the 'visual information' that our eyes pick up in their fixations in reading. Surface structure is

> contrasted with deep structure, which is an alternative term for meaning. (Smith, 1978, p. 71)

The ability to use language cues from both levels to recreate meaning is affected by the degree of encoding, the reader's knowledge or experience with language, and the proficiency with which he can use this knowledge.

> In all processing models the reader must be very active (as opposed to passive) during reading. In each model, knowledge of language helps the reader progress directly or indirectly from print to meaning through the use of language cues in the text. The efficient and effective reader integrates the available cues and uses the full cue redundancy in the text to facilitate fluent meaning-prediction and sampling. (Aulls, 1983, p. 7)

DISCOURSE AND COMPREHENSION MODELS OF READING

In his article, Aulls (1983) has presented a comprehensive view of discourse and comprehension models. He pointed out that both models share the psycholinguistic emphasis on the importance of language knowledge. These models have replaced the sentence grammar of psycholinguistic models with text grammars and have recognized the influence of pragmatics on the understanding of both.

Discourse models are presented as having their basis in literary theory, rhetoric, stylistics, tagmemics and text grammars. The discourse model stresses the relationship of the writer and the message she/he creates and the reader and the message that she/he receives.

> Varifications in learning occur as functions of full participation in the sender-message-receiver relationship and practise in abstracting and re-

> lating understandings derived from text or speech which enable understandings to occur (Aulls, 1983, p. 9)

On the other hand, models of reading comprehension had their origins in cognitive psychology and the fields of memory, inferential reasoning, schema theory, and text grammars. The comprehension models examine the relationship of the reader and his environment and the ways in which what happens before, during and after reading affects the reader's ability to understand or recall what has been read. The reading comprehension process, as it has developed out of comprehension models, are affected by certain elements under the control of the reader:

1. active use of prior knowledge at all phases of reading;
2. awareness of types of inferencing and their functions while reading and after reading;
3. knowledge of text structure and its importance in his ability to make or remake text during and after reading; and
4. ability to understand and recall information as it is presented in various text forms, which have unique textual characteristics (Aulls, 1983).

Both models draw attention to the influence that a reader's world knowledge and language knowledge has on how written text is produced and how a reader comprehends written text. The relationship of speaker, listener, and subject,

in spoken communication, provides the context for the matching of language and reading development with the mental strategies of the learner.

Another important factor that emerges from the examination of the discourse and comprehension models is how important it is that readers deal with text as unified whole.

Aulls established the relationship between discourse and text in that "...text is a form of discourse" (1983, p.9). He has also provided a definition of text, per Halliday and Hasan, describing it as a passage of undetermined length which forms a unified whole.

> Native speakers are able to process, produce, receive, and interpret text or discourse as unified meaningful relationships, not merely as a sequence of sentences. (Aulls, 1983, p. 9)

Text has been further characterized as being cohesive. This means that any interpretation of the text depends upon some other part of the text and cannot be successfully understood without this relationship of parts, resulting in texts being ordered into networks of meaning in order to be coherent.

An understanding of how such networks of meaning are encoded by the writer and how a reader interprets them would be of considerable value to both educators and educational researchers. A descriptive study by Halliday and Hasan (1976) offers one view of how the encoding and decoding of written text takes place. A Model of Textual Cohesion

While there are many descriptions dealing with the relationship between language acquisition and use of language knowledge as they relate to reading and learning to read, Halliday and Hasan's descriptive study, as presented in their book Cohesion in English (1976), is perhaps the most comprehensive. They have provided a text or discourse model in which textual cohesion is used to account for the production and understanding of speech and print. In their analysis of the way in which English is used and understood, they have described textual cohesion and the role played by anaphora in the creation of textual cohesion.

Text is a form of discourse which is primarily a semantic unit. As a semantic unit, it is determined by and dependent upon the establishment of cohesion.

> The concept of cohesion is a semantic one; it refers to relations of meaning that exist within the text and that define it as text. Cohesion occurs where the INTERPRETATION of some element is dependent upon that of another. The one PRESUPPOSES the other in the sense that it cannot be effectively decoded except by recourse to it. (Halliday and Hasan, 1976, p. 4. Capitals are the authors'.)

This review of the related literature and research has revealed an interest in textual cohesion. Warden (1976) examined children's and adults' ability to identify referents when using definite and indefinite articles, revealing developmental differences. Chapman (1979) pointed out that it is only recently that attempts have been made to systematically compare linguistic features that give text continuity

and coherence. He also concluded that text needs linkages and order arrangements to give it continuity, and that these may be difficult for unskilled readers while they may be automatic for skilled readers. Tierny and Mosenthal (1980) described the potential benefits from researching cohesion in text while calling attention to concerns about the researchability of cohesion. They cautioned their readers that Halliday and Hasan do not offer standards for the interpretation and analysis of cohesion in text. Doyle (1982) praised Halliday and Hasan for their presentation of cohesion. She described it as "exhaustive" and "well-researched," though she did add that "...it is ultimately only a description not an explanation of the ways in which meaning is woven through a text"(p. 393).

Fishman (1978) concluded that there is a need to understand cohesion based upon her study of textual cohesion, anaphoric references, and noun phrase organizers and their effect on paragraph comprehension and reading rate. Gutwinski (1976) used cohesion to compare novelists' writing styles; he described cohesion as a "...related and integrated part of the total structure of language" (p. 159). Also studying cohesion from an author's point of view, Bormuth described two major functions of cohesion which allow authors

> to describe complex ideas using series or sentences that are collectively coherent and individually simple enough to be understood, and to create the temporary but semantically complex vocabulary that are developed in their texts." (1975, pp. 4-5)

Lesgold (1974) examined the importance of the semantic characteristics of text in the establishment of rules of syntax while Frase (1973) stated that learning depends upon the semantic characteristics and the complexity of the text. Examining the role played by redundancy in text, Haviland and Clark (1974) concluded that it is necessary for communication. While controlling for cohesiveness of text by manipulating the various linguistic features of cohesion, Freebody and Anderson (1983) discovered that text with low cohesiveness was comprehended but required more work.

According to Halliday and Hasan (1976), cohesion plays a role in establishing the meaning relations that permit a passage to function as text and has the essential semantic characteristic of cohesion. They add that anaphora plays a critical role in the creation of textual cohesion.

Anaphoric Reference

Halliday and Hasan have identified are five distinct forms of cohesion one of which is reference. Reference or endophora can be identified as two distinct types, anaphora and cataphora. When the reference is verbally explicit and found in the immediately preceding sentence it is an example of the commonest form of cohesion--anaphora. In the example that follows the explicitly stated referent for **he** is **postman which is located in the preceding sentence.**

> The **postman** delivered the parcel. Then **he** immediately left for home.

When the referent follows, it is referred to as cataphora.

For example,

> Carefully the technician placed **it** into the box. **Dynamite** must always be handled with extreme caution.

The referent for **it** is **dynamite.** According to Halliday and Hasan, cataphora is not frequently found and is "...not necessary to the creation of text" (1976, p. 293). Anaphora, on the other hand, occurs much more frequently. Anaphoric referents do not always have to be in the immediately preceding sentence, but may span many sentences. The following is an example which illustrates this point.

> As the years passed the **young writer** became more confident and successful. The mood of the people had changed. There was more leisure time than in the past. More people were wondering what to do with that time and many were turning to books. **He** had chosen an opportune time to begin his career.

He refers anaphorically to **young writer.**

An anaphoric referent may be more that one word found in the preceding text. For example,

> When Mrs. Hurst took the parcel from the postman, she said, **"Thank you, you're right on time as usual." That** was a thoughtful thing to say.

Here the demonstrative **that** refers to the comment made by Mrs. Hurst **"Thank you, you're right on time as usual".**

The referent, however, does not have to be stated explicitly. This may be illustrated by adding a sentence to the earlier example about the dynamite.

> Carefully the technician placed it into the box. Dynamite must always be handled with extreme caution. **That** was the first lesson that he had had to learn.

The demonstrative **that** takes as referent the fact that dynamite must always be handled with extreme caution.

Because the experienced reader does not always need to look back in the text to determine what the referent is, it would suggest that developmental factors have an essential role in comprehending anaphora.

ANAPHORA AND DEVELOPMENTAL FACTORS

Research related to anaphora has identified developmental factors involved in the processing and use of anaphora. Fifth grade children could not resolve pronominal ambiguities (Chai, 1967). Children begin by generalizing basic syntactic rules, and exceptions are learned later (Maratsos, 1973). For example, the minimal distance rule is violated in oral language when pronouns are stressed. In the sentence

John hit Harry and then Sarah hit **him**.

him refers to Harry unless it is stressed. When it is stressed then **him** is taken to mean John. Maratsos concluded that children will continue to use a natural cognitive

structure, like the minimum distance rule, until they encounter sufficient exceptions and internalize them. He cautioned that examining cognitive strategies, like a child's reaction to the use of stress, must take into consideration several factors: surface grammar, deep structure grammar and semantics. Children at the age of 5 or grade 1 are beginning to understand the correct use of the pronoun it (Chipman and deDardel, 1974). Richek (1976-77) examined the relative difficulty of three pronominal relationships and concluded that children's use of syntax is not fully developed even by grade 3. Barnitz (1980) concluded that

> ...most pronoun-referent structures show a developmental trend, with more complex ones lagging behind the less complex ones. (p. 287)

Chapman and Stokes (1983) discovered that even the ability to replace deleted anaphoric pronouns was not fully developed by their fourteen-year-old subjects.

ANAPHORA AND COMPREHENSION OF TEXT

Interest in anaphora has resulted from the concern that an ability to use anaphoric links in text is necessary for obtaining meaning.

> ...the study of anaphora can be seen as fitting in well with the current interest in learning how cognitive abilities like inferencing are acquired and further, how they function. (Durkin,, 1981, p. 34)

Bormuth et al. (1970), having completed a study in which they established a hierarchy of difficulty for anaphoric structures, declared that

> The most startling result was the fact that large proportions of the children were unable to demonstrate a comprehension of even these basic structures [including sentence, and intersentence as well as anaphoric structures] by which information is signalled indicating that this deficiency may constitute a serious impediment to the efficiency of instruction. (p. 356)

The sparse but related research of anaphora is nonetheless significant in its implications for the school setting. Anaphora has been found to cause problems for both adults and children when interpreting text (Richek, 1976-77; Nix, 1978; Yekovich, 1979; Garrod and Sanford, 1979; Barnitz, 1980; Wykes, 1981 and Kameenui and Carnine, 1982). The comprehension of anaphora requires unique processing abilities on the part of the reader (Webber, 1980). Richek's research (1976-77) is of particular interest because she studied three forms of anaphora and determined the degree of difficulty each caused for her grade 3 subjects. The three forms were:

1. the noun form, which involved simply repeating the same noun that was used earlier in the text;
2. the pronoun form, where a pronoun substitutes for or takes the place of something mentioned in the preceding text;
3. the null form, where something is deleted from the text and must be supplied by the person processing the text based upon information given in previous text.

When she examined the relative difficulty of the three forms, she concluded that the noun form, though the least frequently used of the three, was the easiest for the subjects to comprehend. The null form, which was found very frequently, was the most difficult. Dalgleish and Enkelmann (1979) compared strategies for resolving pronominal ambiguities between good and retarded readers 8 to 12 years of age, and found that the use of an order rule helped good readers learn to resolve ambiguities presented but not the retarded readers.

> Regardless of the role of syntax in normal reading, the reading retarded reader who is also deficient in knowledge of syntax is certainly deprived of strategies which could be useful in reconstructing materials whose initial decoding has been fragmentary. (p. 296)

In another experimental setting, Nix (1978) decreased the amount of syntactic information available to subjects to resolve referent ambiguities. Subjects took longer to locate the correct referent when the syntactic cues were at a minimum. This suggested that the individuals had to call upon information other than that provided by the syntax. Durkin (1981) reported that interpretation of referents that are only implied may result in comprehension problems. This view is shared by Webber (1980) who concluded that choosing between possible antecedents may be a "very sophisticated skill". Chapman (1979) arrived at the conclusion that the role of pronouns in reference situations is a major factor in determining reading performance. He also observed that

there was a difference in ability to deal with anaphora between fluent and nonfluent readers. Wykes' (1981) research suggests that overdependence upon structural cues (surface structure) and/or syntactical rules and not being aware of, or using, semantically based inferences, such as adults use, might account for problems that children encounter when assigning referents. His study examined how five-year-old subjects responded when more that one referent was possible and inferencing was required. He downplayed the role of memory as the sole source of difficulty when resolving anaphora.

In summary, the processing of anaphora seems to be affected by developmental factors. Further, it seems to be a contributing factor to text difficulty and text comprehension. It also appears that the majority of research into anaphora has involved personal pronouns leaving many kinds of pronouns untouched.

THE ANAPHORIC DEMONSTRATIVES THIS AND THAT

The demonstratives are one potentially difficult kind of anaphora. Two of these demonstratives are this and that and they "...occur extensively with anaphoric function in all varieties of English" (Halliday and Hasan 1976, p. 59-60). They can act as a modifier when they are part of a nominal phrase, or they can act independently in a pronoun-like fashion. When this and that function as demonstrative pronouns, they can take a referent which is a noun or a noun

phrase. Further, they can both take extended and text referents, with the extended form accounting for most of the occurances of demonstrative reference (Halliday and Hasan 1976).

Therefore the three forms that the demonstrative pronoun <u>that</u> can take are nominal, extended and text. When a demonstrative takes a nominal referent that referent is usually represented by a noun or noun phrase. For example:

> The next morning, Kooni's father and mother were surprised to see him playing with a tiny dog. "I found him in a snowbank," said Kooni giving the puppy a hug. "His nose is as cold as ice."
>
> "Then you should call him **Siku,**" laughed his mother.
>
> **"That** is a good name, Kooni nodded. (<u>Expressways</u> grade 2, p. 73)

In the above example, the referent for the nominal demonstrative **that** is the noun **Siku.**

When a demonstrative takes an extended referent the referent is more than a person or an object, it can be a clause or a string of clauses (Halliday and Hasan 1976). For example:

> It was the first time I ever saw the coach blow his top. As for Pooch, he shivered, and peeked out at the coach from under those shaggy bangs and eyebrows like a dog who knows he has done wrong and can't think up any explanation. Padgett tried to think up one for him.
>
> **"Aw, gee, coach,"** said Padgett, **"maybe he was hungry."**
>
> **That** was a dopey thing to say. (<u>Expressways</u> Grade 4, p. 11)

The referent for **that** is **"Aw,... gee, coach,...maybe he was hungry."**

On the other hand, when a demonstrative takes a text referent, unlike nominal or extended referents, it is not an identifiable portion of the text.

> ...text reference differs in kind: the referent is not taken up at its face-value but is being transmuted into a fact or report. (Halliday and Hasan 1976, p. 52)

For example:

> One time my father cut down a tree, and it landed right on a hornet's nest! The hornets were so mad that they chased him down the road and stung him on the face and hands. His hands puffed out just like two balloons, and he had to stop working in the bush for a few days. **That** gave the rest of the family time to catch up on our log peeling. (Expressways Grade 3, p. 82)

The demonstrative **that** in this passage refers to the fact that father was unable to work because he had been stung so badly.

The only demonstratives that can take an extended or a text referent are the singular this and that when they are not followed by a noun. Further, it should be noted that the singular demonstrative this can be both anaphoric and cataphoric, while the singular demonstrative that is always anaphoric (Halliday and Hasan, 1976).

The review of the related literature and research brings to the fore interest in demonstrative reference. Despite little direct research into the roles that demonstratives

play in the reading process, they provide certain directions for empirical study.

Bessemer (1971) identified some important areas of concern during his examination of function words. He identified noun reference, including articles and demonstratives or determiner pronouns, and pointed out that they are "...prime candidates for research on comprehension problems" (pp. 10-11).

Bormuth et al. (1970) examined their grade 4 subjects' comprehension of noun phrase demonstratives and clause demonstratives. They found the responses for noun phrase demonstratives were 81.5% correct, while the responses for the clause demonstratives were only 66.3% correct. Lesgold (1974), while conducting a partial replication of the work done by Bormuth et al., found that 75% of the noun phrase demonstrative responses were correct and 90% of clausal demonstrative responses were correct. The results of the study contradicted the findings of the Bormuth et al. study: Lesgold's subjects had less noun phrase demonstrative correct (6.5%) and more clause demonstratives correct (23.7%). When 11- and 12-year old subjects were involved in a simple completions task where they replaced deleted demonstratives, Chapman (1983) found that the mean results "...were well below the 50 per cent level"(p. 69).

JUSTIFICATION OF THE STUDY

Given that demonstratives occur frequently in written language, their potential influence upon children's reading comprehension, and the lack of research, there is a need to explore children's comprehension of demonstratives.

For the purposes of this study, only the comprehension of three forms of the anaphoric demonstrative that was explored. There are a number of reasons behind this decision,two of which originate from Halliday and Hasan's book Cohesion in English (1976).

1. The anaphoric direction of reference is cited as the "typical direction" (p. 329).
2. The demonstrative that is always anaphoric whereas this can be both anaphoric and cataphoric.

Because the current study is an exploratory investigation, it was decided to avoid interpretation problems resulting from the study of both this and that by concentrating only on the demonstrative that.

As a result, the following hypotheses were developed for this study:

1. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three grade levels 2, 3, and 4.

2. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three ability levels high, middle, and low.
3. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three forms of the demonstrative studied nominal, extended, and text.
4. There will be no significant interaction between the variables grade and ability.
5. There will be no significant interaction between the variables grade and TIFDR.
6. There will be no significant interaction between the variables ability and TIFDR.

In order that some insights may be gained from students processing of the demonstrative <u>that</u>, a secondary but related question was explored:

What possible causes can be found for the errors among the three forms of the demonstrative <u>that</u>?

Chapter III

DESIGN OF THE STUDY

The study was designed to obtain information about grade 2, 3, and 4 children's ability to comprehend three forms of the demonstrative that. It is centred around three questions:

1. Will there be significant differences across three grade levels and across three ability levels on the subjects' abilities to comprehend the anaphoric demonstrative "that"?
2. Will there be significant interaction among the three variables of grade, ability, and Test for Identifying Forms of a Demonstrative Referent (TIFDR)?
3. What possible causes can be found for the errors among the three forms of the demonstrative that?

In order to answer questions #1 and #2 the Test for Identifying Forms of the Demonstrative Referent (TIFDR) was developed. The TIFDR required the subjects to read passages and answer questions which could provide insight into their ability to comprehend three forms of the demonstrative that. The answer to question #3 was obtained by studying the TIFDR responses in relation to the subject's oral reading and his/her responses TIFDR responses after that oral reading. The chapter will begin with a description of the pilot study,

followed by a description of the research study which includes the population and the test instruments and their administration, scoring and statistical analysis.

THE PILOT STUDY

The piloting of the study took place in a large Winnipeg suburban school involving thirty-five students and five classrooms from grades 2 to 6. The subjects were selected by the teachers using the criterion that the subjects should represent a cross-section of reading ability. The children's estimated reading ability levels high, middle and low were communicated to the researcher after the first form of the Test for Identifying Forms of a Demonstrative Referent (TIFDR) had been administered individually to all the subjects. All their responses were recorded on audiotape including the probing of each subject's responses when incorrect or incomplete referents were given. Piloting showed that those children who provided an incorrect or incomplete referent could be asked to read the passages orally to obtain insights into their self correcting and/or processing techniques. The pilot study also showed that passages from grade 1, 2, and 3 levels of instructional reading materials would be suitable for the actual research study, thus passages at these three levels were selected from three different reading series to maximize the ability to generalize

from the findings of the study. Further, it was found that the younger subjects, the weaker readers and the subjects who felt threatened by the test situation were more comfortable reading orally.

THE RESEARCH STUDY

Description of the Population

The study was conducted in two elementary schools from a large metropolitan suburban school division in western Canada. The schools were selected on the basis of the interest of principals, staff and students in the study and the fact that the schools represented a cross section of the socio-economic spectrum.

Description of the Sample

The sample was selected randomly from six intact classrooms: two grade 2 classrooms, two grade 3 classrooms, and two grade 4 classrooms. Grade 2 was chosen because the pilot study indicated that the grade 2 subjects represented the lower limit of students who are able to read the passages and answer the questions. Grade 4 subjects were selected because they were found to represent a corresponding upper limit. The grade 3 subjects were used to provide a basis for comparison. The reading subtest of the Stanford Achievement Test (SAT) was administered to all the children in the six classes by the researcher. These scores were used

to place all the children into one of the three reading ability levels (low, middle, high). Six subjects per ability group per grade were then randomly selected. This resulted in a sample of 18 subjects for each grade and a total population of 54 subjects.

Test for Identifying Forms of a Demonstative Referent (TIFDR)

The TIFDR was created and piloted by the researcher. The test consists of nine passages with the length ranging from 31 to 60 words. The passages were taken from three different reading series. Actual text from the readers was used because of concerns expressed by Karmiloff-Smith (1980); she drew attention to the need for the examination of pronouns in contexts which extend beyond isolated sentences which are not a natural context for them. Passages were chosen making certain that the three forms of the demonstrative, and the three grade levels 2, 3, and 4 were represented equally for each of the three reading series. Because it was necessary to make some changes to the passages when they were removed from their original contexts, the readability of all the passages was checked in order to insure their designated readability. Table 3.1 presents the calculated reading levels of the passages using the Spache Readability Formula (Revised).

TABLE 3.1

THE READABILITY OF THE TIFDR PASSAGES

GRADE LEVEL	READABILITY OF THE TIFDR PASSAGES AND READING SERIES SOURCES		
	Holt Rinehart Winston	Lippincott	Gage
Grade 1	1.7	2.1	1.9
Grade 2	1.9	1.4	2.3
Grade 3	2.0	1.9	3.5

Each of the passages was typed on separate sheets and the anaphoric question for each passage was typed on the reverse of each sheet. The TIFDR questions were developed using the method described in Bormuth (1968), designed to assess the subjects' ability to comprehend the three forms of the demonstrative <u>that</u>. The method involved

> ...deleting the anaphora from its sentence, replacing it with its antecedent, and then forming a wh- question which deletes either the anaphora or the remainder of the derived sentence. (Bormuth , 1968, p. 58)

The following is an example of the procedure using passage #1A (Nominal) from this study:

1. **That** was a fast raft. (Anaphoric sentence)
2. **The stick** was a fast raft. (Deletion of the anaphora and replacing it with its antecedent)
3. **What** was a fast raft? (Deletion of the antecedent and the formation of the Wh- question)

<u>The Stanford Achievement Test</u>(<u>SAT</u>)

The reading subtest of the Stanford Achievement Test 1972 edition SAT) --Primary Level II, Primary Level III and Intermediate Level I-- was administered by the researcher. The Stanford Achievement Test (1972) was used because the reviews in The Eighth Mental Measurements Yearbook are favourable in terms of its technical quality, content validity, and completeness (pages 1222 to 1225).

The testing took place over a two week period in the spring of 1984. The SAT subtests were handscored by the researcher using the scoring masks provided for each level and form. After the SAT testing was completed the scores were used to group the subjects according to reading ability. The teachers then sent them individually and in random order for the TIFDR testing.

Administration of the TIFDR

The TIFDR was administered in a small private room. Each of the subjects was given standardized instructions which were that she/he would be reading some stories silently and answering one question for each passage. The questions were located on the back of each passage sheet. The child would be allowed to reread the passage as often as necessary and answer the TIFDR questions orally in order that the answer could be audio-taped. Each subject was instructed that every response would be followed through with the question "Anything else?" to ensure that the subject gave as complete an answer as possible.

The administration procedure followed the pattern described below:

1. Subject read each passage silently and then turned over the page and read the TIFDR question silently.
2. If the response was correct, the subject was asked "Anything else?". If the answer was "No." then the subject was asked to go on to the next passage. If the answer was "Yes." then the subject was asked to continue until the response was "No."
3. When any of the subject's responses were incorrect a coded note was made discretely on the Taping Record Sheet beside his/her name and then those passages were read orally. It should be noted that because the weaker readers frequently took much time and made more errors, for some weak readers the investigator was obliged to take a representative sample of the passages to be read orally.
4. After the oral reading the subjects would be asked to go on to the next passages if the response was correct or if it were obvious that word recognition was the problem; otherwise she/he would be be questioned to determine if word recognition, vocabulary or processing had been the cause of the incorrect answer. Difficulty in responding was determined by a combination of several cues: silent reading rate, no response after approximately 20 seconds, physical signs

of restlessness, inattention, facial expressions and the number of incorrect responses. It should be noted that where the subject appeared to be more comfortable reading aloud she/he was encouraged to continue reading orally until the tension decreased and/or she/he was responding correctly.

Scoring of the TIFDR

The students' responses to the TIFDR questions were scored by the researcher and by a graduate student in education who had been trained in the method developed for scoring (See Appendix D p. 92). This independent scoring resulted in an inter-judge agreement of 93.6% and all differences were resolved by conferencing. A test score was obtained by assigning a score of 2 when a semantically and syntactically correct referent was provided; a score of 1 if a semantically correct referent was given and a score of 0 when there was no response or an unintelligible response or an incorrect response. The following examples are actual responses from the study for passage #2B (Text).

1. The end of the gingerbread man was that the fox ate him. (score=2)
2. The fox ate the gingerbread man.(score=1)
3. He licked his lips and said, "What a tasty afternoon snack." (score=0)

The score was often determined by substituting the subject's response for the interrogative pronoun found in the anaphoric question and then examining the semantic and syntactic match resulting from that substitution with the correct response. (See Appendix D for a detailed description of the scoring procedure.) A maximum individual TIFDR score of 18 was possible for each subject.

DESIGN OF DATA ANALYSIS

The analysis of data has a factorial design with the factors in the study being:

Between-subjects factors:

Grade

Reading Ability

Within-subjects factors:

Type of Demonstrative

There are three forms of the demonstrative: Nominal (N/R), Extended (E/R), and Text (T/R), therefore the data will be a comparison of:

Grade	Reading Ability	Type of Reference		
		N/R	E/R	T/R
	High (Above Average)			
2	Middle (Average)			
	Low (Below Average)			
	High (Above Average)			

3 Middle (Average)

Low (Below Average)

High (Above Average)

4 Middle (Average)

Low (Below Average)

The analysis will consist of a three way-ANOVA (Analysis of Variance) with repeated measures on the one within factor (type of reference), and two grouping factors (grade and ability). The BMDP2V analysis of variance , designed by BMDP Statistical Software (1985), was selected because it may be used to analyze variance for a variety of fixed effects, such as grade, ability and test, and for repeated measures, where cell sizes are equal or unequal. Analysis of multiple variables is possible as well when this form of analysis is used. The Neuman-Keuls Multiple Comparison Test was employed to identify significantly different means.

In summary, the sample studied consisted of 54 randomly selected students 18 from each of the three grade levels 2, 3, and 4. The subjects were selected from two suburban Winnipeg schools which, according to the school administrators, enrolled students from a cross section of socio-economic levels.

Following the administration and the scoring of the TIFDR, a descriptive analysis and a statistical analysis of the data was completed. The results are described and tabulated in the following chapter.

Chapter IV

ANALYSES OF THE DATA

The study was designed to explore the ability of grade 2, 3, and 4 subjects to comprehend three forms of the demonstrative that.

The first phase of the analysis of the data involved a descriptive analysis of the mean TIFDR (Test for Identifying Forms of a Demonstrative Referent) scores and standard deviations for each grade level, each ability level and each form of the demonstrative. In the second phase the results of the testing of the hypotheses are presented. The significant variation for grade, ability, TIFDR or forms of the demonstrative, and for the interaction among the three variables are described and discussed. The .05 level was used to evaluate the significance of these variables using the analysis of variance with repeated measures BMDP2V. The results of the Neuman-Keuls test to identify significantly different means are presented as well. In the last phase the results of probing the causes of errors found among the three forms of the demonstrative are described. The chapter concludes with a summary of all the results of the analyses of the data.

In all, six null hypotheses were formulated:

1. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three grade levels 2, 3, and 4.
2. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three ability levels high, middle, and low.
3. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three forms of the demonstrative nominal, extended, and text.
4. There will be no significant interaction between the variables grade and ability.
5. There will be no significant interaction between the variables grade and TIFDR.
6. There will be no significant interaction between the variables ability and TIFDR.

In addition to these hypotheses the following question has been explored in this study:

What possible causes can be found for the errors among the three forms of the demonstrative <u>that</u>?

A frequency count of the types of errors and the accuracy of responses after oral reading was done in order to respond to this question.

DESCRIPTIVE ANALYSIS OF THE DATA

The mean scores established that performance on the TIFDR increased across grade levels as may be seen in Table 4.1.

TABLE 4.1

COMPARISON OF MEANS AND STANDARD DEVIATIONS BY GRADE LEVEL

Grade Level	Mean Score	Possible Total	Standard Deviation
2	4.44	18.00	3.70
3	6.17	18.00	3.76
4	6.44	18.00	3.50

The lowest mean score is found at the grade 2 level (4.4). The next highest mean score is found at the grade 3 level (6.2) and the highest mean score is at the grade 4 level (6.4). When the the difference between the means for the grade 2 level and the grade 3 level (1.8) and between the grade 2 level and the grade 4 level (2.0) are compared with the difference between the means for the grade 3 level and grade 4 level(.2), the difference is considerably greater for the first two pairs of means.

When the mean scores for ability are examined, the score for the high ability group was highest (7.7) and the score for the low ability group was lowest (4.2). The mean score

for the middle ability group fell between the other two groups (5.2). An examination of the mean scores reveals a difference among the mean scores for each ability level. The difference between the high ability level (7.7) and the low ability level (4.2) and the difference between the high ability level (7.7) and middle ability level (5.2) were both markedly higher than the difference between the middle ability level (5.2) and the low ability level (4.2) as shown in Table 4.2.

TABLE 4.2

COMPARISON OF MEANS AND STANDARD DEVIATIONS BY ABILITY LEVEL

Ability Level	**Mean Score**	**Possible Total**	**Standard Deviation**
High	7.67	18.00	4.20
Middle	5.23	18.00	3.45
Low	4.17	18.00	3.32

The subjects' mean scores for the three forms of the demonstrative nominal, extended and text show a higher score for the nominal (2.6) when compared with the mean scores for both the extended (1.4) and the text (1.7) as is illustrated in Table 4.3. The difference between the mean scores for extended and text was 0.3 compared with 1.2 between nominal and extended and 0.9 for nominal and text forms.

TABLE 4.3

COMPARISON OF MEANS AND STANDARD DEVIATIONS FOR DEMONSTRATIVE FORMS

Form of Referent	Mean Score	Possible Total	Standard Deviation
Nominal	2.56	6.00	1.38
Extended	1.43	6.00	1.14
Text	1.70	6.00	1.14

TESTING THE HYPOTHESES

The six null hypotheses presented at the beginning of this chapter were generated for the purpose of exploring the relationship of the raw scores on the TIFDR and the other variables in the study: grade, ability and forms of the demonstrative. All hypotheses were tested for significance at the .05 level. In order to reject the null hypothesis, the variance of mean scores for each of the variables would have to be significantly greater than the scores within each of the variables. An F score of 3.205 (for the variables grade and ability), 3.100 (for the TIFDR variables) 2.575 (for the interaction of grade and ability), and 2.470 (for the interactions of TIFDR with both grade and ability) is required for significance at the .05 level. The Neuman-Keuls multiple comparison test was employed in order to locate the areas of significant difference.

Of the six null hypotheses that were developed, three examined the mean TIFDR comprehension scores with respect to grade, ability and forms of the demonstrative, while the remaining three examined the degree of significant interaction for each of the following pairs of variables: grade and ability, TIFDR and grade, and TIFDR and ability.

Hypothesis 1

There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three grade levels 2, 3, and 4.

The results for the grade variable are found in Table 4.4.

TABLE 4.4

RESULTS OF THE ANALYSIS OF VARIANCE

Source	**SS**	**DF**	**MS**	**F**
Grade	14.09	2	7.04	3.57*
Ability	38.68	2	19.34	9.81*
Interaction of Grade-Ability	8.39	4	2.10	1.06
TIFDR	37.42	2	18.71	12.94*
Interaction of TIFDR-Grade	1.88	4	0.47	0.32
Interaction of TIFDR-Ability	7.62	4	1.90	1.32
*p < .05				

Because the mean TIFDR scores varied significantly for grade, the null hypothesis was rejected. The difference between the mean scores for grade 2 and grade 3 and grade 2 and grade 4 were statistically significant, however, the difference between the means for grade 3 and grade 4 was not statistically significant when the Newman-Keuls test was applied (see Table 4.5).

TABLE 4.5

NEWMAN-KEULS TEST OF DIFFERENCES FOR GRADE

Grade		Grade 2	Grade 3	Grade 4
	Means	4.44	6.17	6.44
Grade 2	4.44	-----	1.73*	2.00*
Grade 3	6.17	-----	-----	.27
Grade 4	6.44	-----	-----	-----
*p < .05				

The table value of q for grade was 2.84 (r=2) and 3.42 (r=3). The calculated values of q were .76 (r=2) and .92 (r=3). As a result when the difference between the mean scores for grade 2 and grade 3 were compared using the calculated value of q, there is a significant difference in mean performance. The same held true for the difference between the means for grade 2 and grade 4. The difference between the calculated value of q (.76) and the difference be-

tween the means for grades 2 and 3 was .97 and the difference for grades 2 and 4 was 1.08. The difference between the pairs of means for grade 3 and 4 and the calculated value of q (.92) was -.65 and was, therefore, not significant.

Hypothesis 2

There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three ability levels high, middle, and low.

The results of the analysis of variance for ability are described in Table 4.4.on page 41 . Once again, because the mean TIFDR scores varied significantly for ability, the null hypothesis was rejected. When low ability reading level mean scores were compared with middle ability level mean scores, the difference was significant. The same was true when high ability level mean scores and middle ability level mean scores were compared. A significant difference was also found between high and middle ability mean scores. The comparison of means was accomplished by using the Newman-Keuls test. The results of that test are presented in Table 4.6. In this instance the table value of q was also 2.84 (r=2) and 3.42 (r=3) with the corresponding calculated values of q of .76 and .92 respectively. The difference be-

tween each of the pairs of means: low-middle, high-low, and middle-low was significant at the .05 level. The significance was greater, however, for both the low-high levels (2.58) and the high-middle levels (1.52) when compared with the low-middle levels (.30). It is important to note that the ability variable, which is significant at the .01 level, accounts for more of the variance than does either grade or the interaction of grade and ability.

TABLE 4.6

NEWMAN-KEULS TEST OF DIFFERENCES FOR ABILITY

Ability		Low	Middle	High
	Means	4.17	5.23	7.67
Low	4.17	-----	1.06*	3.50*
Middle	5.23	-----	-----	2.44*
High	7.67	-----	-----	-----
*p < .05				

Hypothesis 3

There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three forms of the demonstrative nominal, extended and text.

The analysis of variance results for the forms of the demonstrative are described in Table 4.4 on page 41. As may be seen, there is a significant difference for forms of the demonstrative and, as a result, the null hypothesis must be rejected. It is important to note that this variable, forms of demonstrative, was significant at the .01 level and accounts for more of the variance than do TIFDR-grade or TIFDR-ability results. In order to identify the forms which account for the significant variance, the Neuman-Keuls test was used to examine the pairs of means for the three forms of the demonstrative. The results of this test are located in Table 4.7.

TABLE 4.7

NEWMAN-KEULS TEST OF DIFFERENCES FOR FORMS OF THE DEMONSTRATIVE

Forms		Extended	Text	Nominal
	Means	1.43	1.70	2.56
Extended	1.43	-----	.27	1.13*
Text	1.70	-----	-----	0.86*
Nominal	2.56	-----	-----	-----
*p < .05				

The Neuman-Keuls test established significant differences at the .05 level between the nominal and extended mean scores and the nominal and text mean scores but not for the extend-

ed and text forms. The higher degree of significance is found between the means for the nominal and extended forms (0.35) and the means for the nominal and text forms (0.08) where the value of q for both pairs (r=3) is 3.38 and the calculated value of q is .78. For the means of the extended and text forms (value of q (r=2) is 2.82 and the calculated value of q is .65) the significant difference is -.38. Therefore, the differences between the mean scores for the extended and text forms is not significant.

Hypothesis 4

There will be no significant interaction between the variables grade and ability.

Since an F score of 2.57 is required for a significant interaction at the .05 level, the F score of 1.06 for the interaction of grade and ability (as seen in Table 4.4 page 41) is not sufficient to reject the null hypothesis.

Hypothesis 5

There will be no significant interaction between the variables grade and TIFDR.

The results from the analysis of variance for the interaction of TIFDR and grade (as seen in Table 4.4 page 41) produced an F score of .32. Since and F score of 2.47 is needed for significance at the .05 level, the null hypothesis must be accepted as tenable.

Hypothesis 6

There will be no significant interaction between the variables ability and TIFDR.

The results of the analysis of variance from Table 4.4 (p. 41) give the interaction of TIFDR and ability an F score of 1.32. Because an F score of 2.47 is needed for significance at the .05 level, there is no basis to reject the null hypothesis.

Results after Oral Reading

What possible causes can be found for the errors among the three forms of the demonstrative that?

With one exception, all subjects read at least one passage orally. As a result it was possible to tape record the oral reading and the responses to the TIFDR questions and do a frequency count of the errors. In addition, the number of responses correct or incorrect after oral reading was tabulated. The errors were categorized according to grade and ability and entered into a table which may be found in Ap-

pendix B (p. 84). The results of the frequency count were as follows:

1. The most frequent errors for grades 2 and 3 involved the extended, nominal and then text. At the grade 4 level the pattern was nominal, extended and then text.
2. The number of errors associated with word recognition decreased as grade and ability levels increased, and was replaced by problems with word processing.
3. As grade and ability levels increased the frequency of incorrect responses decreased.
4. Vocabulary did not have a bearing on any of the results for grade or ability. <u>that</u>.

Note--For the frequency count see Appendix B p. 84) the number of grade 4 students was 17 instead of 18 because one grade 4 subject (low reading ability) did not read orally. The number of responses tabulated for grade 4--high reading ability level-- was 8 instead of 9 because another student was asked to read orally when he was very slow in giving a response for passage #1A (nominal), but gave the correct response.

SUMMARY OF THE RESULTS

The results of the analyses may be summarized as follows:

1. While the variation for grade was significant, only the grade 2 and 3 levels and the grade 2 and 4 levels had significantly different means. The difference between the grade 3 and 4 means was not statistically significant.
2. There was significant variation across the three ability levels. The low ability group received the lowest scores, the middle ability group received higher scores, and the high ability group received the highest scores.
3. The differences between the mean scores for the nominal and extended forms and the nominal and text forms of the demonstrative were significant while the difference between the extended and text forms was not.
4. The interaction of grade and ability, TIFDR and grade, and TIFDR and ability is not significant.
5. In examining the errors in the TIFDR and through probing the subjects' responses after oral reading the results indicated that
   a) for grades 2 and 3 the greatest number of errors involved the extended form, then the nominal form, followed by the text form. For the grade 4 subjects, nominal exceeded extended followed by text.

b) as grade and reading ability increased the frequency of word recognition errors decreased and problems with processing increased.

c) The frequency of incorrect responses decreased as grade and reading ability levels increased.

d) Vocabulary errors did not affect the results for either grade or ability.

Using the results obtained from the analyses of the data, conclusions, implications for classroom practice, implications for publishers of instructional reading materials and developers of curriculum plus implications for further research are presented for consideration in the next chapter.

Chapter V

SUMMARY, CONCLUSIONS AND IMPLICATIONS

The study was designed to explore the ability of grade 2, 3, and 4 subjects to comprehend three forms of the demonstrative that. The study endeavors to answer the following questions:

1. Will there be significant differences across three grade levels and across three ability levels on the subjects' abilities to comprehend the anaphoric demonstrative "that"?
2. Will there be significant interaction among the three variables of grade, ability, and Test for Identifying Forms of a Demonstrative Referent (TIFDR)?
3. What possible causes can be found for the errors among the three forms of the demonstrative that?

The purpose of this chapter is to summarize the findings of the study, to present for consideration four conclusions based upon these findings and to offer implications for classroom practice, implications for publishers of instructional reading materials and curriculum developers plus implications for further research.

The six hypotheses and the related question that provided the focus for this study are:

1. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three grade levels 2, 3, and 4.
2. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three ability levels high, middle, and low.
3. There will be no significant differences among the mean comprehension scores on the Test for Identifying Forms of a Demonstrative Referent (TIFDR) for the three forms of the demonstrative nominal, extended, and text.
4. There will be no significant interaction between the variables grade and ability.
5. There will be no significant interaction between the variables grade and TIFDR.
6. There will be no significant interaction between the variables ability and TIFDR.
7. What possible causes can be found for the errors among the three forms of the demonstrative <u>that</u>?

SUMMARY OF THE FINDINGS

The reading ability was determined for each of the 54 grade 2, 3, and 4 subjects by using the reading subtest of the Stanford Achievement Test. These subjects were selected randomly from two suburban Winnipeg schools. The Test for Identifying Forms of the Demonstrative Referent (TIFDR) was administered to each subject to test the subject's ability to comprehend three forms of the demonstrative that. An independent scoring was done to verify the researcher's scoring of the TIFDR responses. The statistical significance of the TIFDR results, for the variables grade, ability, forms of the demonstrative and the interaction among the variables, was measured using an analysis of variance with repeated measures (BMDP2V). The significance between pairs of means for each variable was tested using the Neuman-Keuls Multiple Comparison Test. In addition, after listening to tapes of the oral reading done and the answers to the TIFDR questions which followed, a frequency count was done of the types of errors and the number of accurate and inaccurate responses. The testing took place over two weeks and was completed by the end of the first week of June 1984. The findings are:

1. The mean TIFDR scores increased as the grade level increased.
2. The mean TIFDR scores increased as reading ability levels increased.

3. The mean TIFDR score for the nominal form of the demonstrative was higher than the mean score for either the extended or text forms. The mean TIFDR score for the text form was higher than the score for the extended form but the difference between the two was extremely small.

In more specific terms, the findings are:

1. There was a significant difference between the mean TIFDR scores for grades 2 and 3 and for grades 2 and 4. There was no significant difference between the means for grades 3 and 4. The differences between the mean scores for grades 2 and 3 and grades 2 and 4 accounted for the variance.
2. There were significant differences between the mean TIFDR scores for low and middle levels, middle and high levels, and low and high levels. This variable accounted for more variance than either grade, or grade and ability.
3. The results of the analysis of variance revealed significant differences between the mean TIFDR scores for the nominal and extended forms and for the nominal and text forms but not for the extended and text forms. The differences between the nominal form and the other two forms accounted for the variance.
4. There was no significant interaction between the elements of the variable pairs grade and ability, TIFDR

and grade and TIFDR and ability. This lack of significant interaction increases confidence in the significance of the main effects involving the variables grade and ability.

5. At the grade 2 and 3 levels the number of extended errors exceeded nominal followed by text. At the grade 4 level nominal errors exceeded extended which in turn exceeded text.
6. Word recognition errors decreased as grade and reading ability levels increased while problems with processing increased.
7. As grade and ability levels increased the frequency of incorrect responses decreased.
8. The frequency of vocabulary errors was extremely low as compared to the frequency of errors in word recognition and processing.

CONCLUSIONS

Since this study is an exploratory study caution must be exercised when making generalizations to populations other than the one studied, nevertheless the following conclusions are presented for tentative consideration:

1. A child's ability to comprehend three forms of the demonstrative <u>that</u> appears to increase as grade level increases, but that variation is a result of significant variation for only two of the three grade levels: grades 2 and 3 and grades 3 and 4.

2. A child's ability to comprehend three forms of the demonstrative that appears to increase as reading ability increases and may, in fact, have more effect on a child's ability to comprehend the three forms of the demonstrative that than does the grade variable.

With one exception, specific studies of the demonstrative that were not found. Barnitz (1980) did conduct a study of the anaphoric pronoun it. Since it is a reduced form of the demonstrative that, taking both extended and text referents (Halliday and Hasan, 1976), there is reason for examining the results of his study. Barnitz identified a significant developmental trend after studying grade 2, 4 and 6 children's ability to comprehend structure involving the anaphoric pronoun it. The hierarchy of difficulty he discovered for ability to identify sentential or clausal referents located in the preceding sentence was 31% for grade 2, 44% for grade 4 and 62% for grade 6. Thus it would appear that the reading comprehension of the personal pronoun it is developmental. The results of this study suggest that there is a developmental pattern for three forms of the demonstrative that. It seems, however, that a student's reading ability may be a more significant factor when determining his/her ability to comprehend the demonstrative that than grade. This conclusion is substantiated by the following facts: the ability variable was statistically significant at the .01 level while grade was significant at the .05 lev-

el, the mean score for the high reading ability level was higher that the mean score for the grade 4 level and, throughout the study there are examples of subjects from grades 2 and 3, often from the middle and high reading ability levels, who answered the TIFDR questions as accurately as the older subjects did. For example, of the 11 subjects who responded correctly to the nominal TIFDR question "What is a fast raft?" (Passage #1A), 8 were from grades 2 and 3 (4 high and 4 middle ability) and 2 were from grade 4 (high reading ability). In fact, the student who received the highest TIFDR score came from grade 2 (high reading ability).

Comprehending referents for the three forms of the demonstrative <u>that</u> may be difficult for young children and weaker readers due to the very nature of the demonstrative. Channon's (1980) discussion of the characteristics of the anaphoric demonstrative <u>that</u> underlines its openendedness, flexibility, and adaptability. He describes anaphoric <u>that</u> as a "...maximally unmarked pronoun"(p. 107); its selectional features are neutral in terms of characteristics such as gender, number and count. In fact, Channon concluded that <u>that</u> can be an anaphor for more formal structures and that

> Anaphoric <u>that</u> can without difficulty accommodate antecedents with conflicting feature specifications, antecedents whose structural complexity is not limited and antecedents which are Ss as well as antecedents which are Nps." (p. 108)

He described the versatility of the demonstrative that as a chameleon-like ability which allows it

> ...to stand where needed because other pronouns would be inappropriate or because the determination of which other pronouns might be appropriate would be very complex. (p. 107)

The very nature of the pronoun that may account to a great extent for the fact that mastery of this demonstrative may occur later developmentally than once was thought.

3. The ability to comprehend extended and text forms of the demonstrative appears to be more difficult than comprehending the nominal form.

This problem with a more extended form of referent is found in Barnitz's (1980) study. He observed that where referents were clauses (sentential), as opposed to nouns or noun phrases (nominal), they were significantly more difficult for his grade 2, 4, and 6 subjects. He suggests that this occurs because sentential referents are more complex involving more information and more structure. He pointed out that this results in more demands upon memory and more structure in order to respond to the questions.

Dutka (1979) examined the relationship of anaphoric nominal substitution and reading comprehension among college age students which led her to conclude that the longer the construction substituted the greater the difficulty encountered. She described this length of substitution as the best predictor of item difficulty. In the present study the

subjects also found longer referents more difficult. Only 24 of the 162 extended responses were given a full score compared with 63 of the 162 nominal responses. (A full score of 2 indicated that the response given was a semantic and syntactic match for the correct referent.) Interviewing of the subjects in this study also revealed that where a longer referent was required, even when it was an exact portion of the text (extended form), students would often reprocess the referent into their own words. This suggests that it was easier for them to remember their own words than to retain and express a longer portion of text in someone else's words. It is interesting to observe, however, that while the TIFDR questions for the text form of the demonstrative did not require such exactly phrased responses and did allow the subjects to respond in their own words, the results were significantly lower than the results for the nominal form of the demonstrative which indicates that they found the text form more difficult to comprehend. For example, only 4 of the 54 subjects in the study, 2 from grade 2, 1 from grade 3, and 1 from grade 2, were able to provide the correct response for the text TIFDR question "What was the end of the gingerbread man?" (Passage #2B) compared with 11 of the 54 subjects, 2 from grade 4, 5 from grade 3 and 4 from grade 2, who responded correctly to the nominal TIFDR question for passage #1A "What was a fast raft?". Another strategy that the subjects used was to give a noun phrase, or some other exact but shorter portion of a passage, which

also suggests that the demands of the longer referent had taken its toll. The use of strategies like these may be an indication that the subjects have not developed strategies that will give them success yet. Wykes (1981) offered some reasons why very young children had trouble comprehending pronouns where more than one referent was possible. His explanations may also account for the problems encountered by the subjects in the present study. He suggested that the inference rules used by adults are too demanding of the processing capacity of young children, and that young children may be using surface structure or adopting syntactically oriented rules as opposed to the semantically oriented rules an adult might use. McNeil (1984) adds another perspective by pointing out that children's preconceptions and misconceptions may cause them problems when they are reading. He also pointed out that such preconceptions and misconceptions are not easily changed. This would suggest that if children rely on surface structure or syntactically oriented rules, educators may find it difficult to guide them towards using more successful strategies.

4. It would appear that children at the grade 4 level may still not have mastered the ability to comprehend three forms of the demonstrative <u>that</u>.

The grade 4 subjects that Bormuth et al. (1970) studied had only 66.3% correct responses where clause demonstratives were involved. The grade 4 subjects in Barnitz's (1980)

study who did not exceed 31% and 44% respectively where the referent was a clause located in the preceding sentence. The grade 4 subjects in the present study still had problems comprehending the three forms of the demonstrative that. For example, the mean TIFDR scores for the grade 4 subjects was only 6.6 out of 18. No students received the maximum score and the highest score obtained by a single subject was 13 out of 18. In a 1983 study involving 11- and 12-year-old subjects, Chapman discovered that their average ability to replace deleted demonstrative pronouns was still below the 50% level; the maximum score possible was 27 and the mean score was 12.

The low mean TIFDR scores in the present study may reflect the demanding nature of the passages and the task required of the subjects; they were required to read nine passages at three levels of difficulty. The passages ranged in length from 31 to 60 words. They then had to read and answer the TIFDR question orally so the responses could be taped and analyzed fully. An examiniation of the children's responses revealed that each of the noncontrived passages had its own unique vocabulary and structure and as a result, made unique demands upon the students. For example, in passage #1A (Nominal) understanding the meaning of the word "skims" was critical for the processing of the referent. The word "skims" suggests speed and therefore the demonstrative in the statement "That was a fast raft." refers to the

stick that went skimming past. When one also realizes that in this passage there is an explicit statement "The pad is his raft." it is little wonder that the natural distractor "pad" was supplied by 38% of the sample. The low TIFDR score may also suggest that the subjects had not yet developed sucessful strategies for comprehending the three forms of the demonstrative that (Wykes, 1981). McNeil (1984) concluded that readers are guided by the preconceptions and misconceptions about the reading act that they bring to the reading situation. It may be that preconceptions and misconceptions about the demonstrative that may account for the way in which some subjects dealt with identifying referents for the passages in this study. If, for example, they have the misconception that referents should be explicit then the referent "pad" is not an unexpected response for passage #1A (Nominal). It needs to be pointed out that in contrast to the current study, Barnitz's subjects read contrived passages and responded to questions designed to test their comprehension of the anaphoric pronoun it. While distractor referents were built into each passage, the referents were always explicitly stated within the sentence containing the anaphor or in the sentence immediately preceding or following. In the current study, on the other hand, the passages were rechecked for appropriate readability. It needs to be pointed out that in Chapman's 1983 study, the subjects involved had a far less demanding task than did the subjects in this study: they were given a list of the deleted demon-

stratives in random order following each story and were required to replace the missing demonstratives in the stories using these lists. In the present study the subjects were required to read nine noncontrived passages and answer a question for each and then generate an oral response.

5. An examination of the TIFDR errors before and after oral reading and probing of the responses of those subjects who did read orally permits the following speculations:

a) In contrast to the results of the TIFDR scores, grade 4 subjects appeared to have more problems processing the nominal form of the demonstrative than did the grade 2 and 3 subjects. Perhaps the grade 4 student expected that there needed to a more difficult answer than the obvious or simple noun or noun phrase required.

b) The results show that as grade level and reading ability levels increased the number of word recognition errors decreased and difficulties involving processing increased. This suggests that the younger subjects and the weaker readers appear to rely upon word recognition skills to comprehend the demonstrative rather than processing skills. In addition, the fact that processing errors increased implies that the grade 4 and high ability subjects still have not mastered the processing skills needed to comprehend the three forms of the demonstrative <u>that</u>.

c) Though the results show an improvement in the accuracy of responses after oral reading by grade 4, comprehending the demonstrative is still a problem at this grade level.

ASSUMPTIONS

In spite of the fact that the TIFDR passages had been removed from the larger contexts provided by the original instructional reading materials, it was assumed that sufficient context remained to enable the subjects to answer the TIFDR questions.

LIMITATIONS

Due to timetabling limitations and awareness of children's attention spans, some of the TIFDR passages were not read orally by all subjects.

IMPLICATIONS FOR CLASSROOM PRACTICE

The following implications for classroom practice appear warranted based upon the results and conclusions of this investigation:

1. There is a need for teacher awareness of the demands the demonstrative <u>that</u> makes of readers and that the ability to process this demonstrative is contingent upon the reading ability and the grade or age of their students.

2. Teachers also need to be aware that children in the elementary grades, especially those who have problems with reading and/ or who are younger readers, require assistance when they encounter anaphoric <u>that</u> in print. They may continue to require help in developing strategies to enable then to deal with this demonstrative as they progress through school. In addition, teachers of older children may also have students who require the same kind of assistance. The following suggestions are ordered from the simpler to the more complex:

   a) Semantic mapping and Directed Reading Teaching Activities (DRTA) are two strategies which may be useful: Semantic mapping would expand the vocabulary of the readers by having them create semantic maps for critical vocabulary needed to resolve demostrative reference. DRTA would require the students to question and speculate about the stories to be read and share these with others expanding their knowledge of the concepts in the stories. It would also permit them to use language that might be needed to comprehend any demonstrative reference that is part of the text.

   b) Cloze procedure, in which different forms of the demonstrative are deleted then replaced, is a means of increasing awareness of the role played by the demonstrative (Chapman 1983).

c) Antecedent matching involves the use of numbers to link a demonstrative with its referent by having the reader examine a familiar passage and give each demonstrative-referent pair the same numeral. For example,

The moment he saw the rainbow(1) he felt better. That(1) was beautiful.

d) Reconstructing critical misconceptions is also recommended. It involves creating an environment which will encourage readers to verbalize their misconceptions and preconceptions, encouraging clear detailed statements of these, and confronting them with other views, out of which a conflict and a resolution may emerge. Alternative frameworks is similar to reconstructing critical misconceptions, in that the readers are exposed to alternative frameworks to resolve a problem. A conflict is then created and must be accommodated or resolved by the readers.

e) Reading from different perspectives requires that readers examine print from a number of points of view, discuss differences among their perspectives, compare their perspectives with those of others and determine which perspectives are most appropriate or accurate, given the demands of the text involved.

This last method has promise for helping children to resolve problems when identifying referents for the demonstrative <u>that</u>. Using passage #1A (Nominal) as an example, the strategy is outlined below. It could be used before or after reading a passage.

i) The purpose is identified. In this instance resolving the reference for <u>that</u> in the passage has been identified by the teacher and the students. The students read the passage earlier and find two referents <u>pad</u> and <u>stick</u> and they cannot decide which of the two was correct.

ii) Alternative perspectives are elicited from the students such as the point of view of the frog, an observer in the reeds, a bird flying overhead, a bug on the stick, etc.

iii) The students state which perspective they will be taking.

iv) The students read or listen to the story again.

v) They describe, draw, or dramatize the story from the perspective that they took.

vi) Then they will take a new perspective and read the story again on their own.

vii) With the support and quidance of the teacher, the students discuss their experiences

bringing forward similarities, differences, missing elements, and essential and nonessential elements.

viii) The students then use their new understanding of the story to identify that the "stick" is the fast raft and therefore it is the referent for "that" because it skims past whereas the "pad" does not move.

IMPLICATIONS FOR PUBLISHERS OF READING MATERIALS

Developers of instructional reading materials need to be aware that the ability to comprehend the demonstrative that is related to reading ability and the grade or age of the students using their materials. In fact, the ability to comprehend that may continue to be a problem for students in junior and even senior high. The manuals provided with reading instructional reading materials should contain inform teachers about the demands the demonstrative that makes of readers. The manuals should also provide suggestions that that will assist teachers with instructional activities, practice excercises, and evaluation.

IMPLICATIONS FOR CURRICULUM DEVELOPERS

Curriculum developers need to be aware that new instructional strategies and the time allocated for instruction involving the demonstrative that need to be reassessed in the light of the ability related considerations and developmental factors suggested by the results of this study. Further, in-service training of teachers should be considered as a means of increasing teacher awareness where specific activities and methods of instruction are demonstrated which are appropriate for a student's reading ability and age or grade.

IMPLICATIONS FOR FURTHER RESEARCH

Because of the specific nature of this exploratory study and as a result of the findings of this study, a number of suggested areas for further research have emerged:

1. Because a single kind of demonstrative was studied, it would be useful to conduct research involving other kinds of demonstratives such as this, near etc.
2. Because no significant variation was found between the mean TIFDR scores for grades 3 and 4, more research to account for this lack of significance is necessary.
3. Because there was no significant variation between the mean TIFDR scores for the extended and text forms

of the demonstrative, additional study is needed to account for this lack of significant difference.

4. Because many grade 4 subjects experienced more difficulty with the nominal form after oral reading than did grades 2 and 3 subjects, more research to account for this difference is essential.
5. Replication involving a wider age range of subjects should be conducted to attempt to establish an upper age limit where most students are able to identify correct referents for anaphoric _that_ consistently.
6. Replication which involves longer passages would be valuable in determining if longer passages might supply cues that will assist students when identifying referents for the demonstrative _that_.
7. The Test for Identifying Forms of a Demonstrative (TIFDR) should be used with other populations in order to further validate it as a measure of children's ability to identify referents for the demonstrative _that_.

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Appendix A

A SAMPLE OF TRANSCRIPTS OF RESPONSES TO TIFDR QUESTIONS

RIIH1

1. The raft is a ----------the raft is a pad.
2. There was a fence between a space between the fence and the cabin that was covered ---with a blanket. [It was not possible to assertain if this is an answer or simply the subject reading from the passage by listening to the tape once again.]
3. It was strange that he didn't growl and he didn't eat people and he didn't spit fire.
4. The best kind of tiger is that doesn't stay in the bath for more that half an hour.
5. the end of the gingerbread man was when the fox when the fox gave a big snap at the gingerbread ate him.
6. a good name was Wa-Waggles Waggles.
7. What is sad is that the little calf is crying his head off his heart out on the in the pasture.
8. What holds water where the fish can swim is all the rocks or the big soccer and the fish can't get out..
9. The box that was turned upside down is heavy. [followed by something unintelligible]

RIIL3

1. a log.
2. [You seem to be taking a long time. Would you like to go back and have another look at the story?] Answer: the cabin
3. the dragon
4. the cat.
5. the fox ate him.
6. Waggles.
7. the dog was in the picture all alone.
8. no response
9. no response

RIIM4

1. the stick is a fast raft.
2. between the fence was covered with a tiny carpet.
3. The thing that was strange he didn't spit fire he didn't eat people and he didn't gr-growl.
4. The best kind of tiger is the one that does not stay in the bath for more than a half an hour.
5. He licked his lips and and said, "Oh Ho! That was a tasty afternoon snack.
6. A good name was Waggles Waggley. (She pointed to Waggles in the text.)
7. The little calf crying his heart out is sad.
8. The saucer holds the water where the fish can swim.
9. The draw-string bag was heavy.

WIIIM1

1. skim [Anything else?] Very long pause--Read aloud. No problems. TIFDR question.] Answer:-----a pad?
2. [Read aloud. No problems.] TIFDR question Answer: The fence and the cabin?
3. [Read aloud. No problems.] TIFDR question Answer: He didn't spit fire he didn't eat people and he didn't growl.
4. One that doesn't that doesn't stay in the bath for more than half an hour.
5. [Note. When she was asked to read silently there were some very long pauses between the reading and the answers.] The gingerbread man got eaten by the fox. [Anything else?] ------because he told him he'll get wet so he'd better hop on my head.
6. They thought that Waggles was a good better name than Wiggle-Waggle.
7. The little calf's out in the field crying his heart out. That is sad.
8. They dig out many rocks in the bottom of the circle to make a saucer. [Anything else?] that holds the water where the fish can swim.
9. Ted shone the light on the draw draw draw-string bag and um --------and Bill said it was heavy.

WIIIH2

1. Raft is like mmm you sit in it. I'm not sure. [O.K. Keith, Let's review the instructions that I gave you.] TIFDR question Answer: A fast raft is a pad that a frog sits on.
2. There was a space between the fence and the cabin that was covered with tiny carpet.
3. That's strange because he didn't eat people or he didn't blow fire [There was a long pause while he checked back in the story.] or he didn't growl.
4. The very best kind of tiger is one that never wants to sit in the bath for more than an hour.
5. The end of the gingerbread man was when they were getting into deep water and the fox said jump on my head and you won't get wet and the fox he opened his mouth and ate him up ----no --oh brother / The fox said jump for my head or you will get wet and then when they reached sore shore he threw back his head and the fox snapped his mouth and said, "What a tasty little snack." ---------- that afternoon.
6. A good name was Waggles.
7. The little calf standing out in the pasture that's what is sad.
8. Um um the saucer holds the fish made from rocks under the trap it holds the fish and the water.
9. A draw-string bag is what is heavy.

WIIIL3

1. It is a raft that has a motor on the back of it. [Reviewed instructions with the subject.] TIFDR question Answer: [no response after a very long pause. Read story aloud. No problems though the reading wasn't fluent. Read "skeems" for the word "skims". TIFDR question ----------in this story is there anything that could be a fast raft?] ------- ----------pad. [Anything else?] [very long pause] stick. [Which of the two is a fast raft?]-----pad.
2. Little fence in front of the cabin.
3. He didn't spit fire he didn't eat people and he didn't growl.
4. A tiger who stays in the bath more than half an hour.
5. He was eaten up and -------just he was eaten up.
6. To call him Waggles.
7. The little calf is crying his heart out.
8. Connie's family digs out many rocks in the bottom of the circle so the fish won't swim out?
9. The drawing-string was very heavy.

WIVM2

1. / um Tad Tad um Tad's fast raft is is a raft and it goes fast. [Reviewed the instructions. What is the fast raft in the story?] The fast raft is a is a pad.
2. The cabin was filled with tiny carpet.
3. It was strange because he didn't spit fire he didn't eat people and he didn't growl.
4. The best kind of tiger is one that doesn't stay in the bath more than half an hour.
5. The end of the gingerbread man was um that the fox ate him up and there was no more nothing was left of him.
6. They thought that Waggles would be a good name.
7. A little calf in the pasture is sad.
8. The-[The turned the paper for another look at the passage.]-the part that holds-the thing that's called the saucer catches -I mean-holds water-the fish-so the fish can swim.
9. The box with the draw-string that Bill found was heavy.

WIVH3

1. The fast raft is a raft that is going fast. [Reviewed instructions.] a big raft. [Read aloud. No problems. Very fluent.] A stick. [This answer was given without further reference to the anaphoric question.]
2. The fence was covered with carpet the tiny carpet.
3. He didn't eat people he didn't breathe fire and he didn't growl.
4. The very best kind of tiger is one that does want to take baths nearly every day than half an hour that doesn't want to take a bath more than half an hour.
5. The gingerbread was like he ate him. [Anything else?] The fox ate him. I think the fox ate him.
6. Waggles was a good name.
7. It was sad that the little calf was crying.
8. the trap.
9. The draw-string bag was heavy.

WIVL4

1. [Would you read that out loud for me? No major problems but it was not fluent. TIFDR question] / a stick that skims past fast.
2. mumble / -----I forgot the question. A space was covered with the tiny carpet.
3. George was strange because he didn't spit fire or eat people or he didn't growl.
4. A very special tiger is the kind that doesn't stay in the bath more than a half an hour.
5. [No response. Read aloud. The reading was fluent and rapid.] TIFDR question Answer:----------
   [Is it the question that is causing difficulty for you this time? What is that word(end)?] End. [And what does it mean in this story?] ---that the fox ate him and he's not living any more. TIFDR question Answer: that the fox ate him?
6. The good name for the dog was Waggles.
7. The sad thing was that the little calf was standing down in the pasture crying his little heart out.
8. The rocks hold the water where the fish can swim.
9. The thing that was heavy was a draw-string bag.

APPENDIX B

FREQUENCY COUNT OF TYPES OF ERRORS
AND ACCURACY OF RESPONSES AFTER ORAL READING

Students			Problems with the Forms of the Demonstrative 'That'			Word Recognition	Vocabulary	Processing	Did Oral Reading Correct the Response?	
No	Gr.	Ability	Nominal	Extended	Text				Yes	No
6	II	High	5	7	5	0	0	17	9	8
6	II	Middle	8	9	7	14	0	10	0	24
6	II	Low	10	9	6	25	0	0	2	23
18	II	Total	23	25	18	39	0	27	11	55
6	III	High	3	3	2	3	1	4	0	8
6	III	Middle	2	6	3	2	0	9	1	10
6	III	Low	4	6	4	10	0	4	1	13
18	III	Total	9	15	9	15	1	17	2	31
6	IV	High	6	2	1	0	2	6	5	4
6	IV	Middle	5	4	3	1	2	9	5	7
5	IV	Low	4	5	2	3	0	8	0	11
17	IV	Total	15	11	6	4	4	23	10	22

Appendix C

TIFDR PASSAGES AND QUESTIONS

1A (Nominal)

Tad is a fat frog.

Tad is sitting on a raft.

The pad is his raft.

Tad drifts on his soft raft.

Tad sits and sits on his raft.

A stick skims past Tad.

"That is a fast raft," thinks Tad.

TIFDR Question: What is a fast raft?

1B (Extended)

Three white mice were running in front of the tiny little cabin.

Lucy said, "He is pretending that these mice are people."

There was a little fence in front of the cabin. There was a space between the fence and the cabin. That was covered with a tiny carpet.

TIFDR Question: What was covered with a tiny carpet?

1C (Text)

Once upon a time there was a good dragon. The other dragons called him Strange George because

he didn't spit fire,

he didn't eat people,

he didn't growl.

That was strange.

TIFDR Question: What was strange?

2A (Extended)

Well you're not really a pussy-cat," said Mr. Smith. "You're a tiger. A special kind of tiger, who never likes staying in the bath for more than half an hour. And that is the very best kind of tiger."

TIFDR Question: What is the very best kind of tiger?

2B (Text)

Soon, the fox cried again, "You are going to get wet if you stay on my back. Jump up on my head."

When they reached the shore, the fox threw back his head and gave a big snap. He licked his lips and said, "Oh, Ho! What a tasty afternoon snack.

And that was the end of the gingerbread man!

TIFDR Question: What was the end of the gingerbread man?

2C (Nominal)

"Wiggle Waggle is too long for a dog's name," said Father. "Think how funny you would sound when you called him. You would have to say, 'Here, Wiggle Waggle! Here, Wiggle Waggle!' I think that one name would be better. Let's call him Waggles."

They all thought that was good name.

TIFDR Question: What was a good name?

3A (Text)

"That's right, Mr. McGarrity, you don't know what I'm talking about. Well I'll tell you," said Maggie. "I don't have any secrets from you, and anyway, this is not a secret. Mr. McGarrity, it's the little calf. He is standing down in the pasture all alone, crying his little heart out."

"Oh, dear," said Mr. McGarrity, "that is sad."

TIFDR Question: What is sad?

3B (Nominal)

When Connie's family builds the fish trap each spring, they dig out many rocks in the bottom of the circle to make a huge saucer. That holds water where the fish can swim until someone comes for the catch.

TIFDR Question: What holds water where the fish can swim?

3C (Extended)

When Ted flashed his light along the basement walls the boys saw shelves. Many empty jars sat on the shelves. Then Bill noticed an overturned box. He lifted it cautiously and exclaimed, "Ted look here!"

"What is it, Bill?" Ted shone the light on a draw-string bag that Bill clutched in his hand. "That is heavy!" exclaimed Bill.

TIFDR Question: What is heavy?

Appendix D

GUIDE FOR SCORING RESPONSES TO THE TIFDR QUESTIONS

The basic procedure for scoring the Test for Identifying Forms of a Demonstrative Referent (TIFDR) is a reversal of the method used to design the anaphoric questions for the TIFDR passages. This is done by substituting the response given by the student for the interrogative pronoun in the wh-question.

The Directions:

1. Read all the passages thoroughly. It is critical that the person scoring is aware of the unique characteristics of each passage e.g. difficult vocabulary, words that may act as alternative antecedents or natural distractors, other pronouns and how they are used, difficult syntax etc.
2. Answer all the anaphoric questions yourself and prepare a written list of responses that would be
   a) semantically and syntactically correct;
   b) semantically correct only.

   [These responses will provide a basis for comparison for th and anyone else who may be called upon to score the respons

3. Score all the responses for one passage and one grade level at a time. This facilitates consistent scoring.
4. Substitute each subject's response for the interrogative pronoun from each anaphoric question to recreate the derived sentence then ask yourself two questions:
   a) Are the semantics (meaning) and the syntax (language structure) used in the response a match for the correct referent? If the answer is "Yes." then score 2 for this response. If the answer is "No." then procede to the next question.
   b) It there a semantic match but no syntactic or a weak syntactic match with the correct response? If the answer is "Yes." the assign a score of 1. If the answer is "No." then assign a score of 0 because the response offered is neither a semantic or syntactic match for the correct response. It is not possible, therefore, to know if the subject had any sense of the correct referent.
5. Some responses to watch out for are:
   a) ones that are merely chunks of the passages repeated back.
   b) ones that contain ambiguous pronouns.
   c) ones that answer the questions Where? Who? How? Why? instead of What?.
6. Accurate transcripts of the responses are essential yet, at the same time, it is often necessary to lis-

ten to the taped response to obtain prosodic cues that may help scoring especially when the response seems semantically correct only.