

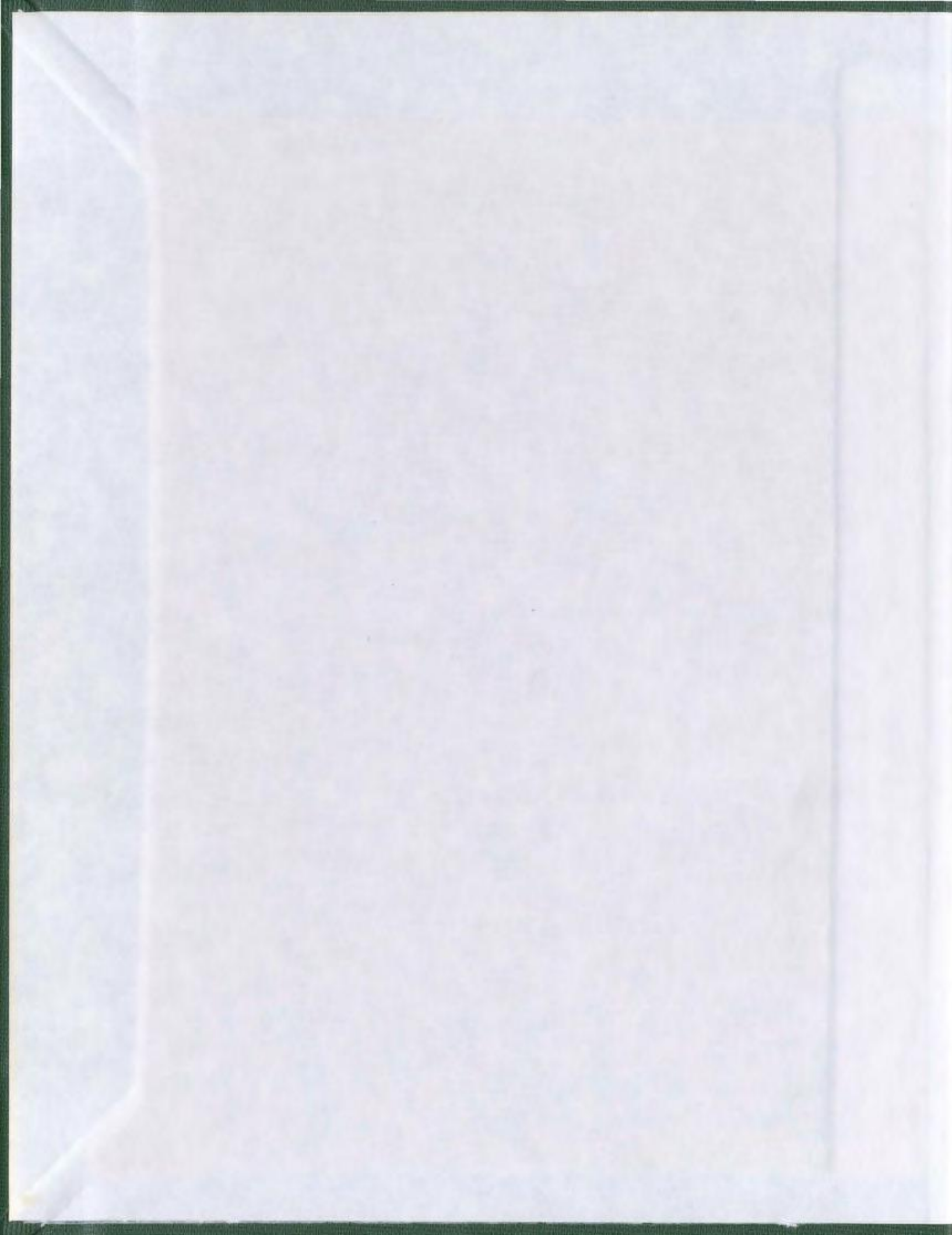
**A STUDY OF THE EFFECTS OF CULTURALLY
RELEVANT CONTENT ON READING COMPREHENSION**

CENTRE FOR NEWFOUNDLAND STUDIES

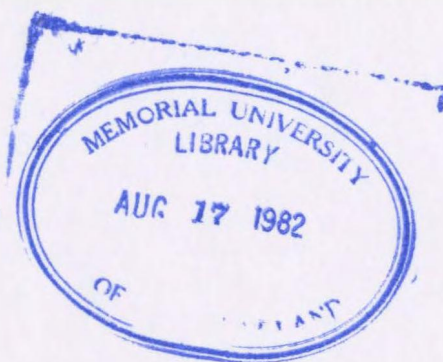
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A STUDY OF THE EFFECTS OF CULTURALLY
RELEVANT CONTENT ON READING COMPREHENSION

by



Gary R. Perry, B.A., B.Ed.

A Thesis submitted in partial fulfillment
of the requirements for the degree
Master of Education

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St. John's

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Abstract

The primary purpose of this study was to investigate the effects of content relevancy on reading comprehension scores. Secondary concerns were an examination of the effects of reading difficulty and sex of subjects on comprehension scores. To test the effects of these variables the writer developed an Informal Reading Inventory (IRI) incorporating culturally relevant content and culturally non-relevant content at three readability levels.

Passages for the IRI were selected from reading material used at the junior high school level in the province of Newfoundland. Passages at readability levels three, five, and seven, as determined by the Fry Readability Graph, were included for each type of content. Each passage was followed by multiple-choice questions designed to measure reading comprehension.

The sample consisted of 394 seventh grade students enrolled with the Terra Nova Integrated School Board; whole classes, irrespective of ability, were included in the study. Tests were administered by classroom teachers who volunteered to participate. Testing was done within a four-week period during the fall term of the 1980-81 schoolyear.

Mean scores of subjects were calculated and a number of comparisons were made to assess the effects of the content, readability, and sex variables. The findings indicated that, at readability level three, indigenous materials enhanced the

degree to which subjects comprehended the reading material. At other levels the subjects generally read at or near the frustration level. The findings further indicated that readability level of content and sex of subjects do not differentially affect reading comprehension scores.

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TABLE OF CONTENTS

CHAPTER		Page
I	THE PROBLEM	1
	Historical Perspective	1
	Background of Reading Comprehension	2
	Reading Comprehension: Some Confusion	4
	Introduction to the Problem	6
	Statement of the Problem	7
	Significance of the Study	7
	Definition of Terms	11
	Limitations of the Study	12
	Organization of the Thesis	13
II	REVIEW OF THE LITERATURE	15
	Introduction	15
	Experiential Background	15
	Acquired Language	18
	Interest	20
	Summary	22
III	METHODOLOGY	24
	Introduction	24
	Design and Hypotheses	24
	The Sample	26
	Instrumentation	27
	The Informal Reading Inventory (IRI)	27
	The Experimental IRI	31
	Rationale for the Use of the Fry Readability Graph	36
	Testing Procedures	40
	Model and Statistical Procedures	42

CHAPTER		Page
IV	ANALYSIS OF DATA	44
	Statistical Findings	44
	Discussion	45
	The Content Variable	45
	The Readability Variable	48
	The Sex Variable	50
V	SUMMARY, CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS	52
	Summary	52
	Conclusions	53
	Implications for Curriculum Development and Instruction	55
	Recommendations for Further Research	59
	BIBLIOGRAPHY	62
	APPENDIX A	71
	APPENDIX B	74
	APPENDIX C	99

LIST OF TABLES

Table		Page
1	Mean Scores of Subjects by Sex Content, and Readability Level	44
2	Mean Scores (Converted to Percentages) of Subjects by Sex, Content, and Readability Level	45

LIST OF FIGURES

Figure		Page
1	Model Incorporating the Variable under Observation	42
2	Statistical Procedure Used for Tabulation of Data	43

CHAPTER I

THE PROBLEM

Historical Perspective

"Whenever the English language is used, the problem of how a child can best be taught to read is widely discussed and unceasingly worked upon. What is perhaps not so widely known is that this confusion over reading is assuredly four hundred and fifty years old. It may be older, but records fail us" (Mathews, 1966; the preface).

The first formal achievement tests in the field of education were developed by Edward L. Thorndike. In 1904, he wrote that "the nature of educational measurement is the same as that of all scientific measurement" (National Education Association, 1977). In terms of the American setting, it is generally agreed that the impetus to scientifically approach educational issues began in the very early 1900's and that Thorndike was perhaps its first proponent. Evidence is available, however, which indicates that studies of a scientific nature had been conducted in the field of reading about the middle of the nineteenth century by French and German educators (Smith, 1966). Harris and Sipay (1975) say that a British ophthalmologist, W. Pringle Morgan, provided the first published report of a case of reading disability in 1896. These initial studies in reading, though few in number, were quite significant in that they marked the beginning of reading research (Smith, 1966).

Until 1908, instruction in reading largely meant accuracy of oral presentation. The primary goals had been proper pronunciation or elocution and dramatic interpretation; experimentation with meaning had focused on the isolated word (Harris and Smith, 1972; Robinson, 1977). Such practices aroused the ire of Edmund Burke Huey, who insisted that traditional measures of reading ability were unsatisfactory. His major work, The Psychology and Pedagogy of Reading, published in 1908, is regarded as the first professional book on reading. In the introduction to his book, Huey cited the "need to pass in review all the methods that have been tried in all the centuries of reading..." (Mathews, 1966, the preface).

Background of Reading Comprehension

One of the first systematic attempts at the measurement of reading ability was made by William S. Gray. In 1915, he published a reading test - The Gray Standardized Reading Paragraphs (Smith, 1966). In the following years, F.J. Kelly devised and published the Kansas Silent Reading Test, which is regarded as the first "reading comprehension" measure (Farr, 1970). A number of other reading tests, most of which involved silent reading, followed hard upon. Although these instruments reflect the attempt to define and quantify "understanding of meaning derived from text", it was not until the 1920's that W.S. Gray coined the phrase "reading comprehension". He used the term in reaction to

what he thought was an overemphasis upon oral reading in American schools (Cleland, 1965, as cited in Harris and Smith, 1972).

The essential point stemming from these early works in reading and reading comprehension is that the emphasis in reading instruction shifted from proper pronunciation to "meaning". Oral reading as an end in itself became secondary, as educators came to realize that comprehension is a more meaningful concern in reading instruction. Reading instruction now attempted to initiate and develop skills used to derive meaning from the content. Contemporary educators and reading authorities view reading in this same light. The following comments substantiate this point:

"The goal of all reading is a comprehension of meaning" (Dechant, 1964, p. 353).

"Creative understanding as a facet of comprehension is the prime objective of reading instruction" (Lowry, 1968, document resume).

"Comprehension is the very heart of the reading act. There is no use of reading unless one understands the meanings" (Smith, 1969, p. 3).

"To some of us, failure to obtain meaning is the most significant and unfortunate outcome of faulty or inadequate reading instruction" (Witty, 1968, p. 249).

"While recognizing the necessity for decoding skill as a means, it is inescapable to concede that the purpose for reading is comprehension" (Kerfoot, 1969, p. 2).

"Since comprehension is the "heart" of the reading process, reading without comprehension is "word calling" or verbalism" (Miller, 1973, p. 21).

"All reading is an attempt to comprehend the message set down by the writer" (Burns and Roe, 1976, p. 209).

"That reading is a process involving meaning is self-evident, but it can hardly be overemphasized that meaningful response is the very heart of the reading process" (Harris and Sipay, 1975, p. 6).

"True reading is comprehending or understanding the printed word. Reading does not stop after a word has been analyzed and pronounced correctly; the next step is the understanding of the meaning of that word" (Cheek and Cheek, 1980, p. 289).

Reading Comprehension: Some Confusion

Given this basic tenet, that the comprehension of meaning is the primary purpose in the reading act, the problem becomes one of definition. A number of reading authorities have put forward definitions of the term (Goodman, 1968; Lowry, 1968; Smith, 1969; Huus, 1971; Smith, 1971; Pavlak, 1974; Wheat and Lomond, 1974; and others), but scrutiny of such definitions immediately indicates one thing - "reading comprehension" is an elusive concept:

Harris and Smith (1972) state, "The term reading comprehension is analagous to the cigarette filter that is 'recessed in'. How, other than in, can something be recessed? Decoding word symbols without attaching meaning is not reading but merely word calling" (p. 239). In discussing the confusion surrounding reading comprehension,

N.B. Smith (1969) points out that, "Comprehension has taken on many indistinct and overlapping meanings since it first became a facet of reading about 50 years ago" (p. i). Harris and Sipay (1975) describe E.L. Thorndike's (1917) pioneering report on the complexity of reading comprehension and cite the review of Simons (1971, 1972) which concludes that not a great deal of progress has been made since Thorndike. Similarly, Wheat and Edmond (1974) state, "Over the years, reading comprehension has been explored and explained from various perspectives. In fact, over sixty years ago Huey raised questions concerning comprehension which are not yet answered. Furthermore, the process of reading comprehension has not yet been defined or conceptualized with any degree of general consensus, despite the fact that almost without exception, reading authorities and practitioners alike feel comprehension is the most important outcome of the reading process" (p. 1). Reading comprehension has been studied and discussed for years, and yet, to date, it appears that no sole, universally acceptable definition has been offered (Pavlak, 1974). Since the subject of reading comprehension seems to involve a general lack of agreement, the logical starting point would appear to be that enunciated by Huey and Gray - reading must be concerned with the acquisition of "meaning".

Introduction to the Problem

Researchers and theorists in the field of reading have identified and tried to assess numerous factors which are believed to affect reading comprehension. The factors delineated and the priority attached vary with the writer, but the following list includes most of those that have been isolated for study:

- vocabulary
- listening ability
- sentence structure
- visual aids
- reading rate
- decoding skills
- questioning
- purpose setting
- fatigue (physical factors)
- reading difficulties
- thinking
- social level
- concentration
- intelligence
- attitudes/values
- interest
- readability level
- language competence
- experiential background
- quality of the writing

Other factors closely associated with and sometimes overlapping these have also been identified. Of these, Harris and Smith (1972) list four factors as being the "primary determinants" of reading comprehension: thinking skills,

7

background experience, language skills, and intelligence. One facet of reading comprehension in which there is a deficiency of research is that of "content relevancy".

Statement of the Problem

This study attempted to examine the question of the feasibility of using reading materials which are "culturally relevant". More specifically, what effect would the use of local/relevant content have upon the reading comprehension of junior high school students?

Significance of the Study

If students are expected to read, and if ability to "understand" the material is to be measured, then it seems reasonable to assume that the nature of the very content used warrants some attention. In addition, while studies have been conducted on the appropriateness of reading materials vis-a-vis matching reading difficulty of materials and pupil reading ability, very few have dealt specifically with the use of materials generated from local sources.

The notion of culturally relevant content obviously spills over into a number of related areas. Reading, generally, is considered to be an extremely complex process involving many interrelated factors and skills. Comprehension, too, involves many factors (previously mentioned) which relate and combine together in ways not clearly understood. Several of these factors are inseparably

interwoven with relevancy of content. Consideration must be given especially to experiential background, acquired language, and interest.

Studies of these factors provide rather strong evidence for the need to direct further research at the area of content. A number of researchers have pointed particularly to the need for research in the use of alternative materials which incorporate language, situations, and themes which more truly reflect the child's lifestyle (Strickland, 1962; Ruddell, 1963; Baratz, 1969; Meisel and Glass, 1970). The findings of these researchers indicate that traditional reading materials as represented in basal reading materials, may, in certain instances, possibly even obstruct comprehension.

Schools in the province of Newfoundland have depended heavily on basal reading series to form the core instruction in reading. At the same time, reading authorities have been seriously questioning the feasibility of using such series for a large proportion of students whose lifestyles are radically different from those depicted in these series. Aukerman (1971) suggests that a fundamental principle of cognitive learning is that it is based on prior experience. By this, the experience the reader brings to the reading situation determines, to a considerable degree, what he comprehends during reading. The more closely the materials used relate to the needs, interests, and everyday living of

the individual, the greater the understanding he should derive from them. Henderson and Green (1969) suggest, too, that "Meanings arise out of the actions of individuals in relation to the environment" (p. 25). Reading is described by Betts (1957) as a process of "reconstructing the facts behind the symbols" (p. 80). He goes on to suggest that the reader's comprehension is drastically reduced unless he can bring his experience to bear on the reading matter. This belief is supported by various authors including Spache (1966), Goodman (1968), Lowry (1968), Ausubel (1969), Kerfott (1969), Robinson (1969), Smith (1971), Pavlak (1974).

Supportive evidence has also been reported by researchers who have studied the effects of acquired language and interest. Simply put, it seems unfair to expect a student to respond favourably to content in reading which has little or no positive reflection of him, his family and friends, his leisure-time activities, his community, and so on. To the rural Newfoundland student, the characters and situations in basals quite probably have little immediate familiarity or relevancy and do practically nothing to reinforce his self-concept. It is this writer's contention that the rural Newfoundland student, through no fault of his own, can derive only limited real-world meaning from the largely artificial content of basal readers. There exists a mismatch in language (pronunciation and structure), environment, and thinking between the reader and the typical textbook character.

To iterate, research in reading has clearly identified the need for further study into the effects of using culturally relevant content on reading comprehension. Writers stress the importance of the student's "response" to the reading matter. Can we expect an enthusiastic response from a student who faces a textbook world which diverges greatly from his own? This writer maintains that reading materials having greater familiarity and relevancy will elicit a much more favourable response from the reader and quite possibly enhance his comprehension of those materials. The study sought to provide evidence to support this contention.

The following questions were addressed in the study:

1. Does the use of culturally relevant reading material result in increased comprehension scores among junior high school students?
2. Is there a difference between the reading comprehension scores of boys and those of girls on the reading material? The culturally relevant material? The culturally non-relevant material?
3. Does the readability level of the material differentially affect reading comprehension scores on culturally relevant reading material as compared with culturally non-relevant material?

Definition of Terms

To preclude misinterpretation of the content of the study, the following specialized terms are defined:

Culturally Relevant Material refers to reading matter which closely relates to the experiential background of the subjects selected for the study. Such matter includes characters, incidents, and themes with which the subjects are familiar, i.e., derived from local sources.

Culturally Non-Relevant Content refers to reading matter which does not closely relate to the experiential background of the subjects. This material includes characters, incidents, and themes which are largely unfamiliar to the subjects, i.e., derived from non-Newfoundland sources.

Informal Reading Inventory (IRI) refers to an informal, non-standardized instrument consisting of a series of reading passages graduated for reading difficulty. The inventory is used to assess word recognition and oral and silent reading comprehension.

The Experimental IRI is an informal, researcher-constructed testing instrument used in the assessment of silent reading comprehension only. This instrument consists of short passages at a number of predetermined reading levels; the passages are each followed by multiple-choice questions.

Readability refers to the level of comprehensibility of reading materials. Understanding (what is read) should occur when there is a close correspondence between the

reader's skill level and the readability level of the material (Hallett, 1979). Readability levels may be determined objectively by the application of a readability formula or graph to the reading material.

Newfoundland Student is a student who has been enrolled in a rural Newfoundland school/schools during the five-year period 1975-1980 and whose parents are of Newfoundland origin.

Limitations of the Study

The generalizability of the findings of the study are limited by the following factors:

1. The sample for the study, although large, did not undergo procedures of randomization and the results cannot be generalized beyond this sample.
2. The sample was purposefully delimited to include only students at the grade seven level. Findings for students at other grade levels may differ.
3. The reading material comprising the IRI was selected by the writer and will, by no means, be exhaustive. Selection of different materials could conceivably yield different results. Also, comparison with empirical findings from studies using standardized instruments is not possible.

4. The study did not employ a rigorous experimental design. It will not be possible, therefore, to ensure strict control of certain threats to external and internal validity.
5. Reading difficulty of the materials to be used was determined by a readability graph. While this instrument correlates highly with other such instruments, reading authorities have questioned the ability of readability formulas to satisfactorily measure reading difficulty as they incorporate a limited number of variables.
6. The passages in the experimental IRI were treated with the Fry Readability Graph (1968). Treatment with other readability formulas could produce varying levels of reading difficulty.

Organization of the Thesis

This chapter has presented the background of the problem, the significance of the study, the definition of terms used, and the limitations of the study.

Chapter II includes a review of related literature emphasizing the effects of three variables which are especially related to content relevancy - experiential background, acquired language, and interest. The chapter concludes with a summary of the literature review.

The methodology for the study is given in Chapter III. The subheadings used are as follows: design and

hypotheses, the sample, instrumentation, testing procedures, and statistical procedures.

Chapter IV presents the major findings resulting from the data and a discussion of the effects of the variables being observed. In Chapter V the study is summarized and conclusions based on the findings are drawn. The thesis concludes with a discussion of certain implications for curriculum development and instruction and a number of recommendations for further research.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

"The task of the researcher who desires to come to grips with aspects of the complex concept called reading comprehension is bewildering and enormous. The task of the teacher is equally bewildering and enormous but also probably the most vital instrumental job within the class setting" (H. Alan Robinson, 1977, p. 9).

This chapter presents a review of literature relating to selected factors which are interrelated with content relevancy in determining comprehension of reading material. These factors are: (1) experiential background; (2) acquired language; and (3) interest.

Experiential Background

Kerfott (1969) states, "It is axiomatic in reading instruction that the reader will derive from the printed page only in proportion to the experiences which he brings to it, that the experiences provide the meanings" (p. 4). For meaningful learning to occur, Ausubel and Robinson (1969) maintain that three conditions must hold:

1. The material presented must be capable of being related in some sensible fashion;
2. The learner must possess relevant ideas to which this new idea can be related or anchored;

3. The learner must actually attempt to relate the new ideas to those which he presently possesses.

According to Goodman (1968), the framework for comprehension comes from one's knowledge of the language and of the world. A basic fact underlying these thoughts and comments is that any person's everyday contacts with his environment must influence his thinking and hence his ability to comprehend. Similar views were expressed by Pavlak (1974) and Henderson and Green (1969). The nature of reading content is discussed by Novak (1976), and he concluded that materials and examples should relate to the prior experience of the learner. In a recent study, Thelen (1980) found that students' problems in content reading stem not from lack of reading skills but from comprehension problems apparently caused by a lack of relevant background knowledge. Cardish (1980) investigated the relationship between reading content and reading comprehension and her findings indicate that there is a general tendency toward greater achievement on relevant reading content and that apparently noncompetent readers in junior high school may actually possess minimal reading ability within the framework of their experiential background. In the same study, she cited I.E. Aaron (1964):

"... the processes which are involved in concept formation cannot be inferred from mental age or vocabulary, but rather, from the cumulative experiences of the individual that have had meaning for him" (p. 14).

H. Lowry (1968) put forward five 'keys' for instructional emphasis in reading comprehension. The first of these, "perception", is concerned with an adequate store of percepts and concepts from the child's experiential background. Lowry views the reader's 'reaction' to the print as the final step in the perception process, but indicates that this reaction is only possible if the reader brings sufficient information gathered from previous experiences and reactions. The learner's relevant background knowledge appears to be an important variable that influences reading comprehension.

Dank, McEachern, and Mallett (1978) conducted a study in which culturally relevant reading materials were used with Indian children in British Columbia who were experiencing reading comprehension problems with traditional, commercially-prepared materials. The authors created in their instructional materials an everyday Indian family and a locally relevant theme. Their results showed that the children reacted positively to reading materials that related to their daily lives. Comprehension and interest in reading increased when the material was meaningful and related to experiential background. Aukerman (1971) summed things up this way: "The use of experiential background for reading is a worthy aim. However it may be achieved should be lauded" (p. 324).

The ideas and findings of these writers have some rather obvious and significant implications for a study of

the effects of local content upon reading comprehension. The reader's acquired percepts and concepts may have been derived from a setting and lifestyle which is far removed from and therefore only slightly related to that which is represented in many reading materials typically used in many schools. The reader's experiential background, in many cases, cannot be aligned/equated with that of others toward whom a particular program is specifically aimed. A junior high school student, regardless of type or location of schooling, possesses an abundance of percepts gained from his immediate environment and everyday socialization. Shortchanging, insofar as measurement of reading comprehension is concerned, may occur when he encounters materials which fail to capitalize on his experience. His comprehension potential may, therefore, be only partially tapped, and he may conceivably be regarded as a poor reader.

Acquired Language

A second influence which overlaps experiential background is that of acquired language. Ruddell (1963) established that the more similar the written language patterns were to the oral language patterns of the reader, the higher was the child's reading comprehension. Baratz (1969) studied the effects of dialect on ability to read and his data suggested that non-standard speakers do not learn to read as well as children who use standard English (i.e., using traditional reading materials). He further

indicated that texts written in non-standard English might be an alternative in enhancing reading and getting more accurate measures of reading ability. Batty and Batty (1978), in commenting on Ruddell's findings, stated, "His suggestion is an attempt to preclude a mismatch between the dialect of the reader and the dialect encoded in print" (p. 8).

Meisel and Glass (1970) found that children considered selections in basal readers to be "not intrinsically interesting". In citing this study, Batty and Batty (1978) commented that "This disinterest may be even greater for the child whose lifestyle, experiences and identity are not reflected in the stories of the basal reader" (p. 13). Tatham (1969) studied oral language patterns and reviewed the findings of Strickland (1962), Ruddell (1963), Amsden (1964), Carroll (1964), Stevens (1965). She found that these writers considered basal readers to be inappropriate for many children. Firstly, basals contain unnatural language and sentence rhythm which do little to foster reading comprehension. It was further indicated that these materials unnecessarily obscure the relationship between spoken and written language. Use of materials structured more toward the way children speak was recommended, since the unnatural language of basal readers might be responsible for faulty comprehension. Robinson (1977) also regarded the lack of similarity between the reader's

language patterns and the written language patterns as a contributor to language comprehension difficulties. He maintained that the information contained in basals is sometimes largely unknown, especially when the writer's attitudes diverge widely from those of the reader.

Interest

A final factor which is interrelated with content, acquired language, and experiential background is that of "reading interest". Generally speaking, reading people feel that the student, irrespective of ability, will do well when the materials used are interesting. Lowry (1968) included "interest" as a major key for instructional emphasis, saying that it helps a child to make "those intuitive insights frequently referred to as using context clues" (p. 14). To accomplish this, students need reading materials which "live and breathe" and involve them "emotionally and sensorially".

Texts should have definite interest appeal; students have demonstrated that they can read materials above their present grade level and tested reading ability, provided such interest is present (White, 1972). One largely undeveloped source of reading material which holds such appeal is the set of experiences and themes that closely relates to the student himself, his peers, and immediate environment. This notion of providing reading matter with greater familiarity and which is, therefore, conducive to increased reader involvement

is given support by several researchers of children's reading preferences (Barchas, 1976; Batty and Batty, 1978; Lewis, 1976; Zimet and Camp, 1975-76). "Reading material which is intrinsically interesting and relevant, in and of itself, may contribute to the interest and increased achievement in reading" (Batty and Batty, 1978, p. 15). Shores-(1947) found this to be equally true of testing situations. The student's performance on a reading comprehension test was influenced by the interest of the reader in the content being read.

Interest is regarded as a significant factor in increasing reading "efficiency" (Witty, 1961). Authors, through the years, who have studied interest and stressed its importance in enhancing initial and developmental reading (Dewey, 1913; Bamberger and Broening, 1934; Strang, 1946; Bernstein, 1955; and others) were reviewed by Shnayer (1968). He drew a number of conclusions regarding reading interest and reading comprehension, two of which are particularly pertinent to the proposed study:

1. A high interest in stories read by students results in greater comprehension than that which results from low interest.
2. Reading interest, as a factor in reading comprehension, may enable most students to read beyond their measured reading ability.

(p. 6)

Summary

Experiential background, acquired language, and interest have a major influence on the reader's ability to comprehend whatever meaning is contained in print. The effects of these factors are inextricably fused; it is this combination which every reader brings to the reading situation; it is this fact that authors of traditional reading materials fail to adequately consider. Cardish (1980) states, "To confront a child from one environmental set of concepts with test items, values and interests from another and ask him to cope successfully with that confrontation may be to test him unfairly" (p. 10). It was this discovery which led Ashton-Warner (1959) to success in teaching the geographically alien Maori children to read. She decided that the major obstacle to reading was the wide discrepancy between the content of the children's minds and the content of the reading texts.

Reading people, for years, have been pointing out that the content of basal readers is often inappropriate for many disadvantaged urban and rural students. The crux of the issue appears to be "degree of familiarity". The more closely the reader's interests, values, experiences and language approximate those presented in the text, the greater the likelihood of student success in reading and learning. Betts (1957), in commenting on the mass use of basals, stated "Unwise expenditures of school funds for

basal readers has done much to impoverish the reading interests of school children" (p. 263).

The simple fact that traditional reading materials have been aimed at a particular segment of the school population points to the erroneous practice of giving them mass use. Aukerman (1971) concluded:

"The textbook suburban Caucasian family has no analog in reality for millions of children. The drawings, while attractive, do not depict a life situation familiar to the urban child. The concepts presumed or developed are alien to many urban children who do not have the middle-class background necessary for understanding them. The language is artificial and contrived, the conversations stilted and unnatural. Attaining the objective of meaning in reading is, therefore, difficult, if not impossible, with most of the reading materials currently available" (p. 312).

CHAPTER III

METHODOLOGY

Introduction

The primary purpose of this study was to investigate the effects of using culturally relevant content on the reading comprehension of junior high school students in the province of Newfoundland. A secondary purpose was to examine the effects/interactions of readability level of reading material, and sex of the subject as they relate to content used and comprehension. This chapter presents an elaboration of the design and procedures employed in the implementation of the study. The following subheadings are used:

1. Design and Hypotheses
2. The Sample
3. Instrumentation
 - (i) The Informal Reading Inventory
 - (ii) The Experimental Instrument
 - (iii) Rationale for Use of the Fry Readability Graph
4. Testing Procedures
5. Model and Statistical Procedures

Design and Hypotheses

To test the effects of culturally relevant reading material on reading comprehension, the researcher developed an experimental instrument following the methods and

guidelines for construction of informal reading/inventories (IRI's). This experimental IRI consisted of six graduated prose passages, three of which contained culturally relevant material (Newfoundland Content - Series A), and three which contained culturally non-relevant material (non-Newfoundland Content - Series B). All passages were selected from sources which are/have been typically included in the Newfoundland junior high English program.

Each series of passages contained a passage which corresponded to each of three readability levels - three, five, and seven as determined by the Fry Readability Graph. Passages were followed by questions which assessed the degree to which subjects understood the content of the passages. Full details of the instrument and its construction are provided in Section 3 of this chapter.

Hypotheses

The following hypotheses were generated and tested in the study.

1. There is no appreciable difference between comprehension scores obtained by subjects on the culturally relevant reading material and scores on the culturally non-relevant reading material.
2. There are no appreciable differences between comprehension scores obtained by subjects on reading material at each of three readability levels.

3. There are no appreciable differences between comprehension scores obtained by subjects on the culturally relevant reading material and the culturally non-relevant reading material at each of three readability levels.
4. There is no appreciable difference between the comprehension scores obtained by males and those obtained by females.
5. There is no appreciable difference between the comprehension scores obtained by males and those obtained by females on the culturally relevant material.
6. There is no appreciable difference between the comprehension scores obtained by males and those obtained by females on the culturally non-relevant material.
7. There are no appreciable differences between comprehension scores obtained by males and those obtained by females on the culturally relevant and culturally non-relevant materials at each of three readability levels.

The Sample

The subjects for this study were three hundred ninety four grade seven students from several high schools in rural communities in eastern Newfoundland. This sample consisted of entire classes of students (irrespective of ability) enrolled in schools of the Terra Nova Integrated School Board. For the purposes of the study, it was felt that this

sample might be sufficiently large to provide the data necessary to determine the effects of the variables being considered. These schools were selected for a number of reasons:

1. They are located in a relatively small geographical area, thus facilitating efficient distribution, testing, and collection. Also, personal contact between the researcher and participating teachers could be maintained without undue financial cost.
2. The schools are located in rural communities - an essential prerequisite in assessing the effectiveness of the content variable.
3. The schools fall under the jurisdiction of a single school board; this fact eliminates pseudo-political constraints such as obtaining permission from multiple sources and operating under differential stipulations.
4. The schools are readily available to the investigator, and teacher participation and cooperation are readily assured.
5. The students of these schools represent a wide range of ability levels permitting a more accurate assessment of the 'readability' variable.

Instrumentation

(i) The Informal Reading Inventory (IRI)

An IRI is an individually-administered, non-standardized testing instrument used in appraising what

Betts (1957) called "the reading facet of language" (p. 430). Betts recognized the need for "abbreviated and practical devices, techniques, and procedures for appraising reading performance" (p. 430).

An IRI is comprised of a number of oral and silent reading selections which are graded in terms of reading difficulty. These selections usually range from the pre-primer to the sixth or eighth grade levels. The passages may come from basal reading series, miscellaneous materials, or they may be developed by the teacher, clinician, or researcher. IRI's are also commercially produced. Basic information regarding IRI's is provided by many authors including Harris and Smith, 1972; Rubin, 1975; Ekwall, 1976; Silvaroli, 1976; Otto, Peters and Peters, 1977; Cheek and Cheek, 1980; and Zintz, 1980.

Each reading passage in the IRI is accompanied by a number of comprehension questions which test various levels of comprehension. Following the teaching of Betts (1946, 1957), inventories usually test facts, inferences, and vocabulary (Johnson and Kress, 1965; Valmont, 1972; Silvaroli, 1976). Writers have delineated additional areas of comprehension such as cause and effect, drawing conclusions, evaluating, recognizing sequence, and others, but it appears, however, that many of these areas are typically included under the umbrella term "inference", i.e., questions testing these areas may, in fact, be considered "inferentially-oriented". Authorities have indicated the usefulness of the

IRI in various terms as illustrated by the following:

"The IRI is especially helpful as a means of gathering information for grouping" (Harris and Smith, 1972, p. 120).

"An IRI is an excellent method for assessing individual reading performance" (Otto, Peters and Peters, 1977, p. 172).

"This instrument is especially useful in determining the strengths and weaknesses in sight vocabulary, word attack, and comprehension" (Cheek and Cheek, 1980, p. 58).

"IRI's are informal tests for reader level sometimes referred to as 'trying on the book for size'" (Zintz, 1980, p. 449).

"The inventory provides the teacher with information concerning the child's independent, instructional, frustration and hearing-capacity reading level" (Silvaroli, 1976, viii).

Other reading specialists who offer supportive evidence of the importance of the IRI include Johnson and Kress (1965), Pikulski (1974), Ekwall (1976), and Guszak (1978).

It is generally accepted among these authorities that a major purpose in administering an IRI is to determine instructional levels. Killgallon (1942) and Betts (1946) were the forerunners in this area. They identified and popularized three rather distinct levels of reading - the basal or independent level, the instructional level, and the frustration level (a fourth, and related level, is the listening capacity level). Killgallon and Betts further established the criteria which designate these levels.

Prior to the oral or silent reading aspects of the IRI, the level at which the student should begin reading is

determined. Graded word lists are used for this purpose; the student begins these lists at two levels below his grade level. The highest grade level at which he is error-free is the level where oral reading begins (Ekwall, 1976; Rubin, 1980). The student progresses through oral and silent reading passages for each level and answers comprehension questions on them. As the reading material of the inventory becomes increasingly difficult, the student eventually reaches his "frustration" level. Although the teacher's primary concern is the independent and instructional levels of the student, this information cannot be accurately ascertained until the student indicates the level at which he becomes frustrated. At this point, the teacher determines the listening capacity level of the student by reading the passage aloud (Ekwall, 1976; Rubin, 1980).

The criteria prescribed by Betts (1946) for measuring word recognition and comprehension in identifying the close reading levels are as follows:

- (a) independent level - word recognition is 99 percent and comprehension is 90 percent;
- (b) instructional level - word recognition is 95 percent and comprehension is 75 percent;
- (c) frustration level - word recognition is 90 percent or less and comprehension is 50 percent or less;

- (d) capacity level - comprehension is 75 percent; the student understands what is read to him, answers in similar language, and supplies additional information due to background experience.

Guszk (1978) states, "Although the Killgallon - Betts concepts have been widely adopted by reading methods authors over the last two decades, they have been questioned by many researchers" (Powell, 1968; Hunt, 1969; Spache, 1969; Powell, 1974; Gonzales, 1975) (p. 119). Powell (1968) retained the reading levels of Betts (1946, 1957), but modified the percentages to be used as criteria in determining them. Rubin (1980) maintains, however, that "Although other percentages for the reading levels exist, the Betts Reading Levels are the most frequently used" (p. 168).

(ii) The Experimental IRI

The central concern of the present study was to investigate the effects of using culturally-relevant content on reading comprehension scores. Of necessity, the standard format of the IRI had been modified to meet the needs of the study. Otto, Peters and Peters (1977) describe an IRI as a reading tool that can be as general or as specific as the needs dictate. Advantages of the IRI, as noted by Betts (1957), include its low cost, direct and rapid administration, validity, possibility of use for group or individual testing, selection of interesting material, and instructional value.

of the test situation. Betts further lists several other advantages of a diagnostically-oriented nature which have little pertinency to this study.

The development and design of the experimental IRI were subject to the following considerations:

1. The proposed IRI was to be used in assessing comprehension of reading content. No attempt was to be made to measure additional facets of reading which are usually included in the standard IRI.
2. The IRI was to utilize silent reading passages in deriving reading comprehension measures. As noted by Ekwall (1976), oral reading passages are sometimes omitted for older students. Spache (1976) further maintains that "...oral reading, unlike silent, is not conducive to comprehension. Oral reading is so demanding per se that a reader has little or no opportunity to process, or react to, the ideas presented" (p. 121). A final point is that oral reading procedures are employed individually for diagnostic purposes, which fall outside the scope of the study.
3. The study, being of an exploratory nature, sought to acquire information from as many subjects as was feasible considering the financial and time constraints involved. To accomplish this objective, the IRI was to be administered to groups of students (whole classes enrolled during the 1980-1981 school year). This practice is supported by Betts (1957), who says "for rapid survey

purposes, a group-type of informal reading inventory can be used" (p. 479).

4. The IRI consisted of reading passages at three readability levels only - level three, level five, and level seven. To repeat, diagnosis of student weaknesses was not the purpose of the study; it was felt, however, that this range of readability levels fairly represented the range of reading abilities encountered in the average grade seven class.

5. The reading passages increased in length as reading difficulty of the passages increased. All authors on IRI's that were reviewed by the researcher supported this procedure. Although the researcher was unable to find definitive or consistent information regarding passage length, that recommended by Ekwall (1976) provided the general guide to be followed. He suggested that around 100-150 words were sufficient at second or third level and up to 250-300 words at seventh or eighth grade level. Therefore, the passages were 100-125 words, 175-200 words, and 250-300 words at levels three, five, and seven respectively.

6. Each passage was followed by a number of comprehension questions. Cheek and Cheek (1980) strongly suggested that a minimum of five and a maximum of ten questions be used. Harris and Sipay (1975) similarly stated, "If specific comprehension questions are to be asked, five to ten questions should be prepared" (p. 170).

Other authors indicated that for this type of instrument (IRI), the optimum number of questions did, in fact, fall within this five-ten question range. The researcher prepared five comprehension questions for the passages at readability level three and ten comprehension questions at readability levels five and seven.

7. To assess the degree to which students understood the reading passages, the writer developed multiple-choice questions. While the relative merits of this and other types of questions have been argued by many authorities in the field of measurement, it was felt that multiple-choice questions facilitated scoring in a straightforward and objective manner. Harris and Sipay (1975) point out that when a written comprehension test is desired, short-answer or objective questions are more efficient than questions which demand longer written answers because they are less time-consuming. They maintain that completion and multiple-choice items allow less opportunity for guesswork than other objective-type items and are therefore more satisfactory.

8. The questions on each of the passages were designed such that they tested three levels of comprehension - facts, inferences, and vocabulary. The relative weights assigned each of these levels were those established by Betts (1957). According to this procedure, forty percent of comprehension questions should test literal comprehension

(facts), forty percent should test inference, and twenty percent should test vocabulary. N.J. Silvaroli, a recognized authority in the construction and use of IRI's, suggests that in obtaining reading comprehension measures, questions should, in fact, deal with facts, inferences, and vocabulary. He does not indicate the relative percentages (of the total comprehension measure) that each of these should be given and shows a lack of consistency regarding this point in the "comprehension checks" which follow the passages in his guide, the Classroom Reading Inventory (1976). The 40/40/20 breakdown of Betts has received wide acceptance among reading authorities, and this writer was unable to find any evidence that it has ever really been challenged.

9. To determine the difficulty of the reading material used in the passages, the Fry Readability Graph was used. A later section provides a rationale for the use of this instrument.

10. As this study was original research in this facet of reading in the province of Newfoundland, the researcher-developed inventory described needed examination and pilot-testing. Prior to actual testing with subjects, a panel of specialists in the area of reading instruction did scrutinize the material for defects, evidence of bias, and equivalency of passages. Any recommended changes were made and the inventory was piloted with grade seven students

in a final attempt to detect any development flaws or presentation problems before implementation in the study.

(iii) Rationale for the Use of the Fry Readability Graph

A readability formula or readability graph is an instrument used to measure the difficulty level of reading materials. Since the Lively-Pressey method developed in 1923, more than thirty formulas and at least ten variations have been used (Klare, 1974). Wide acceptance and use have been given the Lorge formula (1939), the Flesch formula and Dale-Chall formula (1948), the Spache formula (1953), the Jacobson formulas (1961), the Botel formula (1962), the Fry Readability Graph (1968), the SMOG and Bormuth formulas (1969), and the more recent Harris-Jacobson formulas (1972).

Readability formulas have been based on a variety of criterion measures including graded work lists, character (type) spaces, cloze procedures, syllable and sentence counts, error per program frame, frequency of nouns and other parts of speech and others (Klare, 1974). Early studies of readability measured readability essentially as a function of vocabulary factors and depended heavily on word lists such as Thorndike and McCall-Crabbs lists. Later the trend was towards more efficient and easily applied formulas; Fry (1968) and McLaughlin (1969) made attempts to satisfy this demand (Monteith, 1976; Klare, 1974).

Readability research has demonstrated repeatedly (Chall, 1957; Klare, 1963; Bormuth, 1968) that the right

combination of two variables provide the best measure of difficulty of reading material:

- (1) difficulty of vocabulary;
- (2) sentence length.

These are the variables incorporated into the Lorge, Dale-Chall, Spache, and Harris-Jacobson formulas. Vocabulary difficulty is usually measured by counting the percentage of words that do not appear on a certain common word list.

Edward Fry's Readability Graph (1965, 1968) does not utilize word frequency counts in measuring reading difficulty of materials. This is unusual since such counts have long been relied on to measure familiarity of vocabulary. Given that several word lists have been traditionally and recently used and that there has been wide disparity among them regarding length and words included, Fry avoided the criticisms often aimed at them. As early as 1928, Dolch expressed several reservations of the word lists extant at the time (Standal, 1978). Standal states that for as long as they have been used, word lists have been regarded with some suspicion, even by those who formulated them. He further indicates that few studies have dealt with the effect of word frequency on comprehension and the literature reinforces this point, since results of these studies "have yielded, at best, mixed results" (Standal, 1978, p. 644).

Fry's readability measure is based on two indicators of syntactic complexity - sentence length and number of

syllables. Betts (1949) reviewed studies of the relationship between sentence length and readability and concluded that the effect of sentence length had been either explicitly or implicitly assumed in classic readability studies. Klare (1974) pointed out, "Though sentences can be evaluated in several ways, a simple count of length is generally sufficient. Sentence complexity is probably the real causal factor in difficulty, but length correlates very highly with complexity and is much easier to count" (p. 97).

Given a choice, reading people seem to prefer the Dale-Chall Readability Formula as THE formula for predictive accuracy. When compared with the Fry Readability Graph, two points were made by Walter Pauk (1969): "Fry and Dale-Chall" rely on exactly the same datum for one of the primary inputs: the average length of sentences within their samples.

Also for the second primary input, both methods are similar in that each word in the samples contributes to the final raw score. The formula by Dale-Chall discriminates between the 3000 common words and the non-common words. The formula by Fry, though mechanical and with small regard for the actual difficulty of individual words, nevertheless gives weight to each word by counting every syllable in every word" (p. 209).

Fry, himself, maintains that simplicity is a key feature of his Readability Graph. It is quick and simple,

but apparently not at the expense of accuracy. The Readability Graph was compared with four other well-known formulas - the Dale-Chall, Botel, Flesch, and SRA (Kistulentz, 1967). The following correlations were found:

Fry - Dale-Chall (.94)

Fry - Botel (.78)

Fry - Flesch (.96)

Fry - SRA (.98)

The slightly lower correlation with the Botel is explained by Fry (1968) in that it ignores structure complexity which is usually reflected in sentence length. Of the Dale-Chall formula, Fry (1968) says, "I find their readability formula loaded with fussy rules, a tedious vocabulary, and decimal figures carried to the fourth place, a bit overly precise, when it only yields some score such as '9-10 grade'" (p. 231). In evaluating Fry's graph, Klare (1974) states, "Fry's graph has been validated on both primary and secondary materials, and the scores derived from it correlate highly with those from several well-known formulas" (p. 77).

Klare's (1974) article "Assessing Readability" concludes with suggestions for choosing a formula, based upon the following considerations:

1. special versus general needs;
2. manual versus machine application;
3. simple versus complex formulas;
4. word length versus word list formulas;

5. sentence length versus sentence complexity
(p. 62).

In the case of the present study, there was a special need and the formula was to be simple, manually applied, and use word length and sentence length. The selection of Newfoundland content precluded the use of word list formulas, as certain vocabulary items might be considered unfamiliar, even foreign, when one considers typical lists of common words. The Fry Readability Graph has been validated at the readability levels which were used in the study and met all the requirements.

Testing Procedures

Before classroom testing took place, the researcher held informal meetings with all participating teachers to give them a general overview of the study and to familiarize them with the experimental reading inventory. To minimize differential teacher influence during the testing session, the researcher prepared a set of written instructions which were explained to and discussed with each teacher.

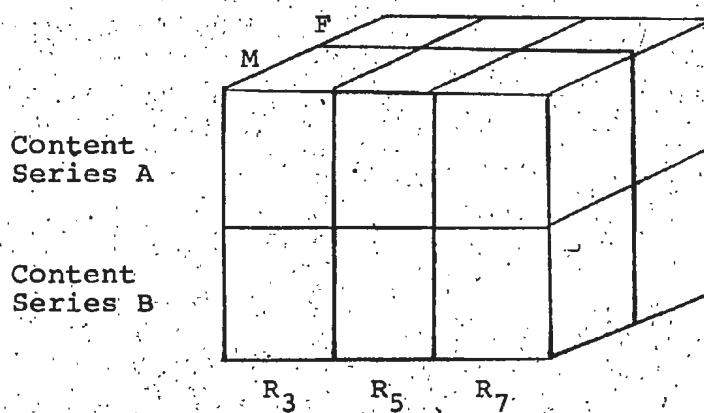
All testing sessions were conducted during the thirty day period between November 15 - December 15, 1980. Actual administration of the inventory to subjects was the responsibility of participating classroom teachers. When possible, sessions were run during the morning in order to avoid extraneous variables such as fatigue, restlessness, and related behaviors which generally typify afternoon sessions.

The testing session consisted of two forty-minute class periods. It was anticipated that one hour of concentration time was needed for reading the passages on the IRI and completing the questions; this allowed the students ten minutes per passage. Twenty minutes were therefore allocated for teacher explanation, distribution and collection of tests; also taken into account was time needed to deal with minor distractions which might occur during the session.

Tests were collected by the researcher or were forwarded to the researcher immediately upon completion. The result was some 19,800 student responses; responses were hand-scored by the researcher. It was believed that a sufficient data base was provided to determine the effects of the variables being investigated.

Model and Statistical Procedures

The following model adapted from O'Reilly, 1978, is presented, which incorporates the variables under consideration - content, readability level, and sex:



where M, F = male, female

R₃ = readability level 3

R₅ = readability level 5

R₇ = readability level 7

Series A = culturally relevant material

Series B = culturally non-relevant material

Figure 1. Model Incorporating the Variables under Observation

Based on the above model, data were tabulated and analyzed according to the procedures outline in Figure 2, as follows:

	Male				Female				Total
	R ₃	R ₅	R ₇	Sub Total	R ₃	R ₅	R ₇	Sub Total	
Series A	1 X ₁₁₁	2 X ₁₂₁	3 X ₁₃₁	X _{1.1.}	4 X ₁₁₂	5 X ₁₂₂	6 X ₁₃₂	X _{1.2.}	X _{1...}
Series B	7 X ₂₁₁	8 X ₂₂₁	9 X ₂₃₁	X _{2.1.}	10 X ₂₁₂	11 X ₂₂₂	12 X ₂₃₂	X _{2.2.}	X _{2...}
Total	X _{.11.}	X _{.21.}	X _{.31.}	X _{..1.}	X _{.12.}	X _{.22.}	X _{.32.}	X _{..2.}	X _{...}

Figure 2. Statistical Procedure Used for Tabulation of Data

X_{ijk} notation was used, where $i = 1, 2$ for content, $j = 1, 2, 3$, for readability level, and $k = 1, 2$, for sex.

Thus, X_{ijkn} = the n th score on the i th row, the j th column and the k th layer.

By way of example, the above X_{131} was a score obtained by a subject on the Series A material (the row variable), readability level 7 (column variable), and of the male sex (layer variable). The above $X_{.22}$ will be the total scores at readability level 5 for females.

Cell means were calculated for each of the twelve cells designated in Figure 2. To test the hypotheses presented earlier in this chapter, a number of comparisons of means were made. Such comparisons attempted to assess the effects of each variable. Full details of the findings and a discussion are provided in the following chapter.

CHAPTER IV

ANALYSIS OF DATA

The purpose of this chapter is to present the statistics and to examine the findings in terms of the stated hypotheses.

Statistical Findings

According to the model presented in Chapter Three, the following tables contain the major statistics resulting from the data. Again, the cells have been numbered to facilitate comparison and discussion.

	Male n = 209				Female n = 185				Total
	R ₃	R ₅	R ₇	Sub Total	R ₃	R ₅	R ₇	Sub Total	n = 394
Series A Content	1 3.73	2 5.24	3 5.31	14.28	4 3.75	5 5.09	6 5.87	14.71	28.99
Series B Content	7 2.52	8 5.15	9 5.05	12.72	10 2.58	11 5.67	12 5.67	13.92	26.64
Total n = 394	6.25	10.39	10.36	27.00	6.33	10.76	11.54	28.63	55.63

Table 1: Mean Scores of Subjects by Sex, Content, and Readability Level

	Male n = 2090				Female n = 185				Total
	R ₃	R ₅	R ₇	Sub Total	R ₃	R ₅	R ₇	Sub Total	n = 394
Series A Content	1 74.60	2 52.40	3 53.10	180.10	4 75.00	5 50.90	6 58.70	184.60	364.70
Series B Content	7 50.40	8 51.50	9 50.50	152.40	10 51.60	11 56.70	12 56.70	165.00	317.40
Total n = 394	125.00	103.90	103.60	332.50	126.60	107.60	115.40	349.60	682.10

Table 2: Mean Scores (Converted to Percentages) of Subjects by Sex, Content, and Readability Level

Discussion

The Content Variable

The central concern of this study was to examine the effect of culturally relevant reading material on reading comprehension. It was hypothesized that there would be no difference between comprehension scores obtained by subjects on the culturally relevant material and scores on the culturally non-relevant material.

First of all, the overall mean for cells 1-6 (60.78) was compared with the overall mean for cells 7-12 (52.90). There was a general tendency towards increased comprehension of the indigenous material. The probability of this difference occurring by chance was minimal considering the large sample

from which data was drawn and the large number of responses ($n = 19,800$) from which the statistics were derived.

To further examine the effects of the content variable, the means at each readability level were compared. It was hypothesized that there would be no differences between scores obtained by subjects on the culturally relevant reading material and the culturally non-relevant reading material at each of three readability levels.

The mean of cells 1, 4 (74.80) is significantly higher than that for cells 7, 10 (51.00). This difference provides strong evidence that, at readability level three, reading material which is culturally relevant enhances reading comprehension. A comparison of the mean for cells 2, 5 (51.65) with the mean for cells 8, 11 (54.10) shows that very slight gains were achieved on the non-indigenous material at readability level five which seemingly contradicts the findings at readability level three. The last comparison, at readability level seven, indicates that subjects scored slightly higher on the culturally relevant content. The mean of cells 3, 6 was 55.90 while that for cells 9, 12 was 53.60.

A final group of comparisons related to the content variable were individual mean comparisons of the Series A and Series B content for both males and females at each readability level. It was hypothesized that no differences would occur between scores on the two types of content for males and females at each of the readability levels.

At all three readability levels the males scored higher on the Newfoundland content (74.60, 50.40; 52.40, 51.50; 53.10, 50.50). The females, however, scored higher on the Newfoundland content at only two readability levels - three and seven (75.00, 51.60; 50.90, 56.70; 58.70, 56.70). It should be noted, though, that with the exception of level three, these differences are all approximately five percent or less and therefore cannot be attributed to the content variable with any degree of confidence.

The most obvious question to be raised concerning these findings for the content variable is: Why does such a marked difference occur at readability level three while such marginal and contradictory differences occur at levels five and seven? It would appear that subjects read the level three culturally relevant material at the instructional level. The mean of 74.80 almost exactly equals the criterion measure of 75 percent for comprehension as set down by Betts. The mean of 51.00 for the level three non-relevant material very closely approximates the frustration criterion of 50 percent or less. At this point, the type of content seems to be an important variable affecting reading comprehension. If we consider that there was a single testing session and that all subjects answered all questions, it seems reasonable to assume that this major difference can be attributed to the indigenous nature of the reading material.

The results at readability levels five and seven (51.65, 54.10; 55.90, 53.60) indicate miniscule differences which are contradictory. They suggest that at these levels the type of content makes no appreciable difference, in one direction or the other. At level five, the culturally non-relevant material yielded slightly higher scores; at level seven, the culturally relevant material yielded slightly higher scores. The primary point, then, seems to be the similarity among these means NOT the difference among them. The fact is that all four means closely approximate the frustration criterion for comprehension. Consideration of the findings at all three readability levels indicates that subjects may have been simply frustrated for the greater proportion of the inventory. Only the culturally relevant material at the lowest readability level seems to have been read at an instructional level. Of all the material, only this was read with any real degree of understanding, as reflected in the mean scores.

The Readability Variable

The effect of the readability level of the material on comprehension was a secondary concern of the study.

Materials at readability levels three, five, and seven were included in the IRI as it was felt that this range was a fair representation of the reading abilities of seventh grade subjects. It was hypothesized that there would be no difference among the comprehension scores obtained by

subjects on materials at three readability levels.

The overall effect of this variable was assessed by comparing the mean for cells 1, 4, 7, 10 with that for cells 2, 5, 8, 11 and that for cells 3, 6, 9, 12. The overall mean at readability level three (cells 1, 4, 7, 10) was 62.90; the mean at readability level five (cells 2, 5, 8, 11) was 52.88; and the mean at readability level seven (cells 3, 6, 9, 12) was 54.75. As expected, the least difficult material yielded higher scores indicating increased comprehension. The findings at levels five and seven, however, show only a slight difference which is the opposite direction to that expected. The more difficult readability level seven material yielded higher scores than the level five material. As mentioned in the previous section, the four means at levels five and seven do closely approximate the criterion for the frustration level of reading comprehension. It seems reasonable to conclude that subjects were generally frustrated at these levels.

These findings do raise some doubts, though. Since the level three Newfoundland material was read at an instructional level, it follows logically that materials at more difficult levels would not be. Yet one would not expect level seven material to be comprehended as well as or slightly better than level five material. And, for the non-Newfoundland content, certainly the degree to which passages were comprehended should have increased as the

reading difficulty decreased. The fact that Newfoundland materials at two levels and the non-Newfoundland materials at all levels were read with approximately the same degree of comprehension suggests that there may have been some fault with the selection of content and/or the questions based on that content.

The Sex Variable

A final area of interest in this study was the effect of sex of subjects on reading comprehension. While this variable has been given extensive study, it was felt that the exploratory nature of the study warranted its inclusion. No previous study could be found which attempted to examine the effects of sex and content relevancy upon reading comprehension. It was hypothesized that there would be no difference between comprehension scores obtained by boys and those obtained by girls. It was also hypothesized that there would be no difference between the comprehension scores of boys and girls on the culturally relevant material or on the culturally non-relevant material.

First of all, the overall effect of this variable was assessed. The mean of cells 1 - 3 and 7 - 9 was 55.42 and that for cells 4 - 6 and 10 - 12 was 58.27 indicating that females scored slightly higher. Once more, the results approximate the 50 percent or less criterion for frustration. Obviously, the overall means for both the males and females were given a boost by cells 1 and 4, the indigenous level three means.

For a more detailed look at the effect of the sex variable, means were calculated and compared across readability levels for each type of content. The mean of cells 1 - 3 was 60.03 whereas that for cells 4 - 6 was 61.53. Thus, females scored marginally higher on the Newfoundland content. For the non-Newfoundland content, the mean of cells 7, 8, 9 was 50.80 while the mean for cells 10, 11, 12 was 55.00. Again, the females made greater gains. This trend was displayed fairly consistently; only in one of six individual mean comparisons did the males score higher. That was for the Newfoundland content at readability level five.

Although the females did score higher in all but one of the nine comparisons made, it cannot be concluded that these differences resulted from a difference in sex. The observed differences were quite small (all five percent or less) making it impossible to attribute them to sex differences.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, RECOMMENDATIONS

Summary

This study set out to explore reading comprehension, a diverse and complex facet of learning. The study focused specifically on the effect of culturally relevant content upon reading comprehension scores. The central tenet of the study was that the degree to which reading material may be comprehended is a function of the degree to which that material approximates the language, interests, and experiential background of the reader. Ancillary concerns of the study included an examination of the effects of reading difficulty of the material and sex of subjects upon reading comprehension.

To assess the effects of type of content, the writer developed an informal reading inventory incorporating both culturally relevant and culturally non-relevant reading materials. The IRI consisted of graduated prose passages followed by questions designed to test reading comprehension. Passages at three readability levels (three, five, and seven) were included to test the effects of the readability variable.

The instrument was administered to 394 grade seven students enrolled in rural schools of the Terra Nova Integrated School Board. Testing was done in the fall term of the 1980-81 schoolyear. All testing was done by classroom teachers who

volunteered to participate in the study. The data was collected and collated; the major statistics were presented in Chapter IV and the findings were discussed.

Conclusions

The following conclusions were generated from the findings of the study. They are limited to grade seven students of rural Newfoundland. The conclusions are being put forward with due reservation considering the delicate and multifaceted nature of reading comprehension. They are not intended as definitive statements but rather as guidelines for further work in this area.

1. Reading content which is indigenous to the reader generally yields comprehension scores which are at least as high as those produced by non-indigenous content. At low readability levels, indigenous materials seem to enhance the degree to which the reader comprehends. This conclusion is substantiated by the level three findings.

2. The subjects who participated in the study were reading at or near the frustration level for more than three quarters of the test. Only the one reading passage at readability level three which was culturally relevant was read at an instructional level. This provides evidence that many students in our schools may be frustrated by much of the content of current reading programs.

3. The readability level of the reading material apparently does not affect the degree to which a student

comprehends the content he reads. The reading passages at all readability levels were read with approximately the same degree of comprehension. The marked increase in comprehension at readability level three has already been attributed to the type of content.

This similarity of scores across readability levels does warrant some discussion. An important point here is that all these scores approximating the frustration criterion should not be misconstrued to mean that the students "understood" one half of what they read. The reading inventory was designed such that it tested three levels of comprehension - facts, inferences, and vocabulary. In essence, a score of sixty percent could have been achieved without critical understanding of the material since only forty percent of the questions were inferentially-based. And, since the questions were in an hierarchy with those testing inferences being most difficult, it is likely that the great majority of correct responses were derived from the vocabulary and factual items.

Another possibility was that the nature of the IRI promoted guessing. Two facts prompt this speculation. First of all, the inventories were hand-scored by the researcher and every subject answered all items. Secondly, the items on the inventory were multiple-choice. In the construction of the IRI the writer justified the use of this type of question on the grounds that it was objective,

efficient and not conducive to guesswork. However, the fact that all subjects responded to all items and the finding that so much of the inventory frustrated the subjects cause the writer to conclude that guesswork did occur.

In view of the evidence that the readability level of the material does not affect the degree of comprehension, perhaps a more appropriate conclusion would be that the passages at levels three, five, and seven were "misunderstood" equally badly. The subjects seem to have either read instructionally (as was the case for the culturally relevant level three passage) or become frustrated.

4. The sex of the subject seems to be irrelevant as it relates to his/her ability to comprehend reading material. Females demonstrated quite consistently that they comprehend at slightly higher levels than males but the observed differences were too small to be attributable to difference in sex.

Implications for Curriculum Development and Instruction

Based on the results of the study, a number of implications for curriculum development and classroom instruction become evident.

1. The finding at readability level three that the Newfoundland content was read at an instructional level whereas the non-Newfoundland content was read at a frustration level is a definite indication that indigenous reading

material does increase the degree to which the reader comprehends. This suggests that culturally relevant materials at low readability levels need to be developed and made available at the junior high school level. A logical step would be an investigation of the possibility of incorporating similar materials into the language arts programs at the upper elementary grades.

2. Attempts should be made to expand the existing volume of appropriate indigenous materials. Greater teacher participation in the development of such content should be encouraged. Also, increased input from local communities should be sought.

3. All potentially usable materials from community or individual sources should receive an objective and thorough evaluation. A committee of interested and qualified individuals would have to be struck at the provincial level to fulfill this purpose.

4. The Department of Education for the province of Newfoundland needs to assess the degree to which its most recent junior high Newfoundlandian series meets this need for local content. These texts are being promoted by the Department and given mass use in schools. The findings of this study, though they cannot be generalized beyond the sample used, do suggest that educators need to be highly selective regarding the content they recommend for use by large groups of students. And, while the writer is in no

way undermining the competency of teachers to assess students and select and evaluate materials, he is expressing the need for an instrument which readily indicates the level at which a student comprehends the material he confronts. This is especially true for Newfoundland content.

5. The Department of Education should require that a proportion of the funds allocated for school libraries be spent on quality indigenous reading materials including print materials and other resource materials.

6. The Department of Education should continue and perhaps intensify its efforts to promote Newfoundland literature in terms of both writing and publishing. For the junior high level, the Department operates on a "wide-reading or hooked-on-books" philosophy. More culturally relevant content should be made available to the reader to select from. This may mean that additional incentives to writers and publishers need to be provided.

7. At Memorial University of Newfoundland greater emphasis should be placed on Newfoundland literature, as distinct from folklore. Courses need to be developed for use in the Arts and Education disciplines. At a time when the Department of Education is demanding required courses in Newfoundland culture, as is the case in programs for the reorganized high school, teacher training should include appropriate courses in this area. Units of study, anthologies, and whole courses are being devoted to the literature and

culture of our province from grades seven to twelve. It may be time for some modification of teacher training to reflect these changes in the curriculum.

8. Educators must not only realize but "internalize" that the needs, interests, and abilities of students are the prime considerations regarding placement in programs.

Programs must have variety and flexibility which allow greater numbers of students access to content which is appropriate to them. It may well be that students are often subjected to courses of study that are simply unsuited to them. Increased content which is local and more relevant may be an avenue to reducing the frustration of low achievers, in particular.

Most of this province's central and regional high schools are fairly small and cannot cater sufficiently to the needs of students. Many students who may be termed "non-academic" daily experience a curriculum which is, for the most part, strictly academic. Providing an extra measure of interest and real-world meaning through use of Newfoundland content could help.

9. Teachers and administrators may need to re-evaluate the procedures typically used to group students for classroom instruction. A student's success in school is strongly related to his ability to read. If indigenous materials can enhance reading comprehension, then modified grouping and scheduling procedures may be required for certain students.

10. School boards should insist that language arts co-ordinators have training related to the selection and use of culturally relevant teaching materials. Such personnel should have the expertise to provide assistance and guidance to teachers in the field.

Recommendations for Further Research

The following recommendations are proposed for further research:

1. The sample, though large, was drawn from a single school district in eastern Newfoundland. Replication of the study in other areas of the province should be undertaken to determine whether or not the findings are accurate and can be generalized.

2. In addressing the question of the effect of content relevancy upon reading comprehension, the study was purposefully aimed at subjects from small, rural Newfoundland towns. Comparable data should be gathered from subjects of larger urban areas or from non-Newfoundland subjects. Studies incorporating such changes may yield several differences.

3. The only criteria for selection of subjects were that they be enrolled in grade seven and fit the term "Newfoundland student". In view of the findings of the present study, it would appear that level of ability should be included as an additional variable. The effects of type of content and the interaction with level of ability would

then provide a means of identifying the particular student who might benefit from indigenous materials. It may well be that indigenous content needs to be used specifically with a particular segment of a student population.

4. The similarity of the results across readability levels raised some doubts about the selection of content and the test items. A future study using a similar design but different content for the inventory should be conducted. Both the readability levels of the reading passages and the test items should be carefully determined.

5. The major finding at readability level three suggests a need to replicate the study using reading material at even lower readability levels. Studies could examine the effects of such materials at the seventh and other grade levels as well.

6. This study was based on the belief that there is strength in numbers. It utilized the entire target population of a geographically large school board. This naturally precluded a rigorous experimental design. A further study needs to be completed using random selection procedures for subjects and incorporating control and treatment groups. Empirical data could then be used for comparative purposes.

7. A possible shortcoming of the IRI may have been the small numbers of questions following the reading passages. It cannot be ascertained if this factor affected the accuracy of the results, but additional data derived from an expanded inventory is needed to corroborate the findings.

8. All tests for the study were hand-scored. Machine scoring would have facilitated more in-depth analyses using item identification procedures: An indication of the frequency of correct responses for individual items would permit an accurate assessment of the type of comprehension questions which contributed to overall mean scores. Such item identification would provide valuable information indicating whether a given testee is more likely to respond correctly to inferentially-based questions. It would further be possible to determine more readily and accurately the effects of the content and readability variables as they relate to ability. This procedure was beyond the scope of the present study but is strongly recommended for future studies in this area.

9. An instrument consisting of culturally relevant content only should be developed and used. The results could be compared with those from standardized reading instruments to provide a more accurate and detailed picture of the individual student.

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APPENDIX A

READING MATERIAL FOR THE IRI -
SOURCES AND CRITERIA

Reading Materials - Sources and Criteria

Following is a list of the sources from which the reading passages for the IRI were selected and a brief description of each.

Series A - Newfoundland Content:

1. The Dangerous Cove by John F. Hayes - readability level three. This novel is historical fiction; it is an exciting account of the early days in Newfoundland (late 1600's). The Dangerous Cove has received wide use as a junior novel in Newfoundland schools.

2. The Black Joke by Farley Mowat - readability level five. Set in outport Newfoundland and St. Pierre during the Depression days, this story of adventure and smuggling has been included on Newfoundland's junior novels list for a number of years.

3. "The Cat with the Yaller Face" by Ron Pollett - readability level seven. This anecdotal piece is found in Doryloads, a small anthology of Newfoundland writings which has been included in the junior high English program for several years.

Series B - Non-Newfoundland Content:

1. Rumble Fish by S.E. Hinton - readability level three. Like Hinton's other junior novels, The Outsiders and That Was Then, This Is Now, Rumble Fish is a contemporary story of city kids and the tough life they lead. Her work

has been included on the junior novels lists for Newfoundland schools.

2. Caribou Runaway by Frances Duncan - readability level five. This novel of historical fiction tells the story of a young girl in search of her father who had gone to the Caribou (1858) after gold. It is included on the junior novels list for 1980-81.

3. High Road Home by William Corbin - readability level seven. This novel appears in Vanguard, an anthology of the Galaxy Reading Series (Scott, Foresman and Company) currently used in many Newfoundland Schools. High Road Home concerns a young French boy who goes to the United States in search of a father.

APPENDIX B

INFORMAL READING INVENTORY

THIS SHORT READING TEST WILL MEASURE HOW WELL YOU UNDERSTAND A NUMBER OF PASSAGES. THE MARK YOU GET WILL NOT BE USED AS PART OF YOUR ENGLISH GRADE THIS YEAR.

PLEASE MARK AN X IN THE SPACE AFTER ONE OF THE FOLLOWING: MALE _____ FEMALE _____

THANK YOU FOR YOUR HELP IN MAKING THIS STUDY OF READING A SUCCESS.

I was hanging out in Benny's, playing pool, when I heard Biff Wilcox was looking to kill me.

Benny's was the hangout for the junior high kids. The high schoolers used to go there, but when the younger kids moved in, they moved out. Benny was pretty mad about it. Junior high kids don't have as much money to spend. He couldn't do much about it except hate the kids, though. If a place gets marked as a hangout, that's it.

Steve was there, and B.J. Jackson, and Smokey Bennet, and some other guys. I was playing pool with Smokey. I was probably winning, since I was a pretty good pool player. Smokey was hacked off because he already owed me some money.

From Rumble Fish by S.E. Hinton, Delacorte Press, New York.

QUESTIONS: Answer the following questions based on the short passage you just read. Circle the appropriate letter.

1. In the above passage, "Benny's" is a place where:
 - (a) the high school kids hang out;
 - (b) street gangs go for a good time;
 - (c) the junior high students go;
 - (d) people of all ages often visit.
2. While this incident is taking place, there were:
 - (a) several boys at the hangout;
 - (b) boys and one or two girls there;
 - (c) mostly girls at the hangout;
 - (d) not enough information to tell.
3. One group of students stopped going to Benny's because:
 - (a) the owner preferred the older students;
 - (b) the older students told them to stay away;
 - (c) the younger kids wanted the place to themselves;
 - (d) they didn't want the younger students there with them.
4. The word which best describes the storyteller is;
 - (a) cruel;
 - (b) shy;
 - (c) boastful;
 - (d) caring.

5. / The reader is told that, "Smokey was hacked off..."

This means:

- (a) he was very angry;
- (b) he was just not interested;
- (c) he was a bit upset;
- (d) none of the above.

A tall figure ~~on the~~ stage-head turned in Peter's direction, stopped his work for a moment, and waved gaily. Peter waved back. He knew it was his father, even if the long, sheepskin barvels the men wore made them all look alike. The man cupped his hands around his mouth. Peter heard his hail.

"Last boat's on the way in! Come over here when you're through flakin!"

Peter nodded vigorously and waved again. His eyes swept over the cove. Small craft, filled with squirming cod, were still making their way towards the stage. Treshaven's settlers were shore fishermen. The boats went out before dawn, returned with their loads, went out again if the sea and weather were right.

From The Dangerous Cove by John F. Hayes, reprinted by permission of Copp. Clark, Pitman, Toronto, Ontario.

Questions: Answer these questions on the passage.

1. The two people in this short passage are:
 - (a) a young boy and a short man;
 - (b) a boy and his father;
 - (c) Peter and a friend;
 - (d) Peter and his uncle.
2. From the information given, the reader can tell that:
 - (a) the tall man is mad at Peter;
 - (b) Peter doesn't want to wave back at the man;
 - (c) the man is pretending to be Peter's friend;
 - (d) Peter knows the man and is glad to wave back.
3. At the time of this incident, the people of the town were:
 - (a) busily unloading and cleaning fish;
 - (b) getting ready for a day of fishing;
 - (c) loading fish onto a boat;
 - (d) deciding what to do with incoming fish.
4. The settlers of Treshaven are described as:
 - (a) deep sea fishermen;
 - (b) longliner workers;
 - (c) shore fishermen;
 - (d) schooner fishermen.

5. The reader is told that, "Peter heard his hail." In this sentence, hail means:

- (a) a tiny piece of ice;
- (b) a shout or call;
- (c) a person;
- (d) a religious cry.

There was no question of playing the big fish. The line was too heavy for the salmon to break, and the hooks were too deeply embedded to let them shake them free. It was a trial of strength between the boys in their rocking dory and a twenty- or thirty-pound fighting fish in his own element.

As the fish surged away under the dory, he dragged the gunwale almost down to the water; and as Kye stumbled backward to balance the boat, the line slipped from his sore hands and the wooden reel rattled wildly in the bottom of the boat while the line paid out with a rush. There was no time for half-measures. With a whoop, Peter jumped full-length to fall on the reel before the last few turns of line spun off it. Kye scrambled to help him and for a few minutes they both sprawled where they were, hanging on for dear life to the reel.

"Tain't no salmon down there, 'tis a whale!" gasped Kye. "Here, try and take a turn of the line round a thole pin afore he hauls us clean out of the dory!"

From The Black Joke by Farley Mowat, reprinted by permission of The Canadian Publishers, McClelland and Stewart Ltd., Toronto, Ontario.

Questions: Answer these questions on the last passage.

1. The boys were not worried about playing the fish because:

- (a) the line was tied tightly to the boat;
- (b) the wooden reel was too strong to break;
- (c) the line was too heavy for the fish to break;
- (d) the fish was not that big.

2. Kye and Peter fight the fish from a dory, which is:

- (a) a motor boat used for inshore fishing;
- (b) a small boat which is usually rowed;
- (c) a kind of small, fast, racing craft;
- (d) a sailboat manned by one person.

3. When the writer talks about the fish "in his own element," he means:

- (a) the fish is fighting for its life;
- (b) the fish weighs twenty or thirty pounds;
- (c) the fish is in water;
- (d) the fish is very strong.

4. The line slipped from Kye's hands when:

- (a) he tried to pull the fish into the boat;
- (b) Peter grabbed the line to help him;
- (c) he stumbled to balance the boat;
- (d) he turned to see what happened to Peter.

5. We know that the fish must be very powerful because:

- (a) the two boys can barely hold the reel;
- (b) it jumps and splashes water over the boys;
- (c) it drags the gunwale close to the water;
- (d) both (a) and (c).

6. The boy's hands were sore as a result of:

- (a) holding the tight fishing line;
- (b) having hooks stuck into them;
- (c) rowing the boat for a long time;
- (d) keeping a steady pressure on the reel.

7. When Kye drops the reel, Peter rescues it by:

- (a) pinning it to the boat with his foot;
- (b) jumping full-length and falling on it;
- (c) pushing Kye on top of it;
- (d) jumping full-length and grabbing it.

8. Kye shows evidence of quick-thinking when he:

- (a) tells Peter to tie the line to the thole pin;
- (b) scrambles to help Peter to hold the reel;
- (c) dips water into the boat to add more weight;
- (d) (none of the above).

9. A thole pin is:

- (a) a plug in the stern of the boat;
- (b) a stick to which a fishing line is tied;
- (c) a wooden strip which holds a seat in place;
- (d) a piece of wood which keeps an oar in place.

10. In the above passage, the boys were fighting:

- (a) a large sea trout;
- (b) a giant squid;
- (c) a whale;
- (d) a big salmon.

Elva had never been this close to the scene of a fight before. Her mother had insisted that both she and Tim be in before dark; until then the town was usually safe. She peeked around the corner. One man was flat on his back in the dirt. As she watched, the victor gave the fallen man one last kick and wandered aimlessly down the road.

Elva's heart beat hard. What should she do? Should she help the fallen man? Would he get angry? Was he, perhaps, dead? There was no one on the road. The only light came in triangles from the saloons.

She chewed her knuckle in indecision. "Somebody do something," she silently urged. Elva looked around again. Still there was no one. She stepped away from the building, but drew back quickly. The man moved. She pressed against the rough boards, relief that he wasn't dead mingling with the fear that he might find her. For a long time she stood still, listening to her own heartbeats. Carefully, she peeked again. He was sitting up now, his hand to his head, paying no attention to her. Encouraged, she watched. He lurched to his feet, stumbled, grabbed the edge of the boardwalk, then clambered onto it and disappeared into the saloon.

From Caribou Runaway by Frances Duncan, reprinted by permission of Burns and MacEachern Ltd., Don Mills, Ontario.

Questions: Answer these questions on the passage.

1. The information about Elva's mother gives the reader the idea that:
 - (a) she is an uncaring person;
 - (b) she is an extremely strict parent;
 - (c) she is a cautious mother;
 - (d) she is a woman without a husband.
2. As Elva watched the fight, she was:
 - (a) alone;
 - (b) with a group of people;
 - (c) with her brother, Tim;
 - (d) hiding behind a wagon.
3. The town in this passage seems like:
 - (a) a nice place to bring up a family;
 - (b) a dangerous place during the daytime;
 - (c) a place safe most of the time;
 - (d) a nice place for retiring people.
4. The word urged, as used in this passage means:
 - (a) didn't care;
 - (b) encouraged;
 - (c) couldn't decide;
 - (d) got sick.

5. The incident described in this passage happened:
- (a) in the early morning before daylight;
 - (b) after dark in the evening;
 - (c) in a large, dark building;
 - (d) just before dark in the evening.
6. Seeing the fight and watching the man lying in the dirt, the girl felt:
- (a) excited;
 - (b) worried;
 - (c) surprised;
 - (d) frightened.
7. Elva decided to leave her hiding place, but she drew back when:
- (a) some men came out of the saloon;
 - (b) the wounded man moved;
 - (c) the victor returned;
 - (d) the man jumped to his feet.
8. After the man finally got up from the dirt, he:
- (a) staggered, then went into the saloon;
 - (b) felt his head and walked into the saloon;
 - (c) could not remain standing and fell back down;
 - (d) grabbed the boardwalk and stumbled down the street.

9. In one line, the writer says "...relief that he wasn't dead mingling with the fear that he might find her."

The best meaning for mingling is:

- (a) overcoming;
- (b) mixing;
- (c) struggling;
- (d) existing.

10. Which sentence best describes Elva?:

- (a) a girl who disobeys her parents;
- (b) a concerned but easily frightened girl;
- (c) a girl who enjoys being out alone;
- (d) a girl whose only concern is staying out of trouble.

The next time there was a rumpus though, the cat was the one to come off with the worst of it. I was sittin' on the bench near the winder and so was the cat when I seen a big earwig scottin' across the floor alongside Grandma's rockin' chair where Gran was rockin' like mad and singin' "And that will be glory for me" the way she always was. The cat seen the earwig too as soon as I turned her head around and the next thing I knowed she was under the chair and I could almost hear the tail scrunch. She made one long splittin' screech and streaked out the door and across the garden like a rabbit runnin' from the flankers when the woods is afire and when she came back the next day her tail was draggin' like it had a kink in it and she was walkin' like she was almost dead.

After a couple of days like that Ma said something had to be done about the cat. No tail at all was better than that she said. So my brother and I got the horse's feed bag and dumped the cat into it so her tail stuck out through the drawstring end and we laid the tail on the choppin' block and my brother chopped off the sore part only so far up it looked like a scut. She kicked up an awful fuss but we wrapped the stump in a rag dipped in cod oil and pretty soon the cat was as good as new.

From "The Cat With the Yaller Face" by Ron Pollett as contained in Doryloads by Kevin Major (Ed.), reprinted by permission of Breakwater Books Ltd., St. John's, Newfoundland.

Questions: Answer these questions.

1. The best meaning for rumpus is:
 - (a) the rear of an animal's body;
 - (b) a fight;
 - (c) a noisy disturbance;
 - (d) a game with two players.
2. At the time the storyteller noticed the earwig, he was:
 - (a) standing near the window;
 - (b) sitting on a bench;
 - (c) lying on a daybed in the kitchen;
 - (d) rocking in Grandma's chair.
3. From the information given, we can tell that Grandma was:
 - (a) a good singer;
 - (b) somewhat religious;
 - (c) a little crazy;
 - (d) a cat-hater.
4. The first one to notice the earwig was:
 - (a) the cat;
 - (b) the storyteller;
 - (c) Gran;
 - (d) the cat and the storyteller saw it at the same time.

5. The cat ran "like a rabbit running from the flankers..."

Flankers are:

- (a) large sparks of fire;
- (b) animals which prey upon rabbits;
- (c) people who fight fires;
- (d) people located to the rear and side.

6. When the cat left the house, she was not seen again until:

- (a) the next day;
- (b) later that evening;
- (c) two or three days later;
- (d) Gran stopped using her chair.

7. The cat screeched and ran out the door after:

- (a) the earwig bit her;
- (b) Gran rocked on her tail;
- (c) Gran's singing became unbearable;
- (d) the storyteller struck her.

8. The boys put the cat into the horse's feed bag because:

- (a) they were punishing her for causing a fuss;
- (b) mother wanted her out of the way;
- (c) they thought she was dying;
- (d) they were afraid of being scratched or bitten.

9. The sore part of the cat's tail was chopped off by:

- (a) the storyteller's mother;
- (b) the storyteller himself;
- (c) Grandma;
- (d) the storyteller's brother.

10. At the end of the passage, the boys used a rag dipped in cod oil to:

- (a) prevent loss of blood;
- (b) provide the cat with Vitamin C;
- (c) make sure the stump healed well;
- (d) cover up their nasty deed.

With a strangled cry Nico awoke, staring wildly around in the tomblike darkness. His head was throbbing painfully as if it had been struck a blow, and there was an evil taste in his mouth. To move was a weary effort, as though he wore weights on his arms and legs.

Something was terribly wrong, and instantly he knew what it was. The big van was motionless, surrounded by deep silence, and had been so for a long time. When not in motion no fresh air was forced into the tight-packed van and Nico, while he slept, had used up most of the air. There was no noise of traffic, no hum of motors, no swish of passing cars. Nothing but the rustling of his own movements and the pounding of his heart. It was like being buried alive, but Nico for the first time in all his fourteen-odd years, gave way to unreasoning panic. Clawing, fighting, tearing, bumping his way over the top of the high-piled load, he reached the space between the big doors and the load. He dropped to the floor of the van, and hammered with his fists against the unyielding metal of the doors, screaming in high-pitched French to be let out.

But nobody heard. There was nobody to hear. The van, though Nico could not know it, was parked with a dozen others in a vast storage warehouse on Cleveland's east side. The only human in the building was Nico himself.

From High Road Home by William Corbin as contained in Vanguard,
Pooley, R.C.; Lowers, V.B.; Magdanz, F.; Niles, O.S. (Eds.),
Scott, Foresman and Company, Glenview, Illinois.

Questions: Answer these questions on the last passage you read.

1. Immediately before the time of this incident, Nico had been:
 - (a) thinking about his next move;
 - (b) sleeping;
 - (c) hitch-hiking;
 - (d) trying to stay awake.
2. As Nico was coming to his senses, he felt:
 - (a) angry because he couldn't sleep;
 - (b) unsure of exactly where he was;
 - (c) refreshed and ready for action;
 - (d) hungry and thirsty.
3. The boy found that movement required a great deal of effort because:
 - (a) there was very little oxygen left;
 - (b) he was tired and needed sleep;
 - (c) he had been struck in the head;
 - (d) (not enough information given to decide).
4. The information given indicates that Nico had:
 - (a) dozed for a little while;
 - (b) became wrapped up in his thoughts;
 - (c) tried to kill himself;
 - (d) slept for quite some time.

5. Nico was:
- (a) fifteen years old;
 - (b) almost fourteen years old;
 - (c) slightly over fourteen years old;
 - (d) (not enough information given).
6. Nico panicked. This means he:
- (a) could not find a way to escape;
 - (b) lost control through fear;
 - (c) decided to figure things out;
 - (d) couldn't decide ~~what~~ to do.
7. All the details of Nico's situation are not given, but it appears that:
- (a) he had been forgotten by the driver of the van;
 - (b) he had been locked in the van by mistake;
 - (c) he had forgotten to leave the doors unlocked;
 - (d) he had sneaked into the van, unknown to the driver.
8. "He....hammered with his fists against the unyielding metals of the doors...." Here, unyielding means:
- (a) not producing;
 - (b) brittle;
 - (c) not giving way;
 - (d) cold.

9. Though the boy didn't know it, the van was:

- (a) parked in a warehouse;
- (b) being towed to a garage;
- (c) parked in a driveway;
- (d) stopped at a railway crossing.

10. The city in which this incident occurs is:

- (a) Chicago;
- (b) Memphis;
- (c) Cleveland;
- (d) New York.

ANSWER SHEET: CIRCLE THE LETTER OF THE CORRECT ANSWER FOR EACH QUESTION.

- | | | | | | | | | | |
|-----|---|---|---|---|-----|---|---|---|---|
| 1. | a | b | c | d | 26. | a | b | c | d |
| 2. | a | b | c | d | 27. | a | b | c | d |
| 3. | a | b | c | d | 28. | a | b | c | d |
| 4. | a | b | c | d | 29. | a | b | c | d |
| 5. | a | b | c | d | 30. | a | b | c | d |
| 6. | a | b | c | d | 31. | a | b | c | d |
| 7. | a | b | c | d | 32. | a | b | c | d |
| 8. | a | b | c | d | 33. | a | b | c | d |
| 9. | a | b | c | d | 34. | a | b | c | d |
| 10. | a | b | c | d | 35. | a | b | c | d |
| 11. | a | b | c | d | 36. | a | b | c | d |
| 12. | a | b | c | d | 37. | a | b | c | d |
| 13. | a | b | c | d | 38. | a | b | c | d |
| 14. | a | b | c | d | 39. | a | b | c | d |
| 15. | a | b | c | d | 40. | a | b | c | d |
| 16. | a | b | c | d | 41. | a | b | c | d |
| 17. | a | b | c | d | 42. | a | b | c | d |
| 18. | a | b | c | d | 43. | a | b | c | d |
| 19. | a | b | c | d | 44. | a | b | c | d |
| 20. | a | b | c | d | 45. | a | b | c | d |
| 21. | a | b | c | d | 46. | a | b | c | d |
| 22. | a | b | c | d | 47. | a | b | c | d |
| 23. | a | b | c | d | 48. | a | b | c | d |
| 24. | a | b | c | d | 49. | a | b | c | d |
| 25. | a | b | c | d | 50. | a | b | c | d |

Please mark an X in the space after one of the following:

MALE

FEMALE

APPENDIX C

NOTE OF INFORMATION TO PARTICIPATING TEACHERS

TO THE TEACHER:

This study represents exploratory research into the effects of using culturally relevant content on reading comprehension. To assess the effects of this variable, I have prepared an informal reading inventory consisting of six short prose passages. Two series of passages have been included:

1. Series A - three passages involving characters and settings derived from Newfoundland sources;
2. Series B - three passages involving characters and settings derived from non-Newfoundland sources.

All six passages were selected from junior novels or basals which have typically been used in Newfoundland schools.

Each passage is followed by a number of questions developed by the researcher following suggested guidelines for the preparation of informal inventories. These questions have been designed to test three areas of comprehension - facts, inferences, vocabulary.

A secondary purpose of this study is to examine the effects of readability level and sex on reading comprehension. Thus, in each series there is one passage at each of three readability levels - three, five and seven. The only information needed about participating students is his/her sex.

A total of 400 students enrolled with the Terra Nova Integrated School Board will complete the inventory. It is hoped that the study will supply some badly needed information regarding the effects of using culturally relevant content and the feasibility of promoting same.

The success of this research project is dependent upon the participation and cooperation of those involved. Your assistance in this endeavour is greatly appreciated. Thank you.

