

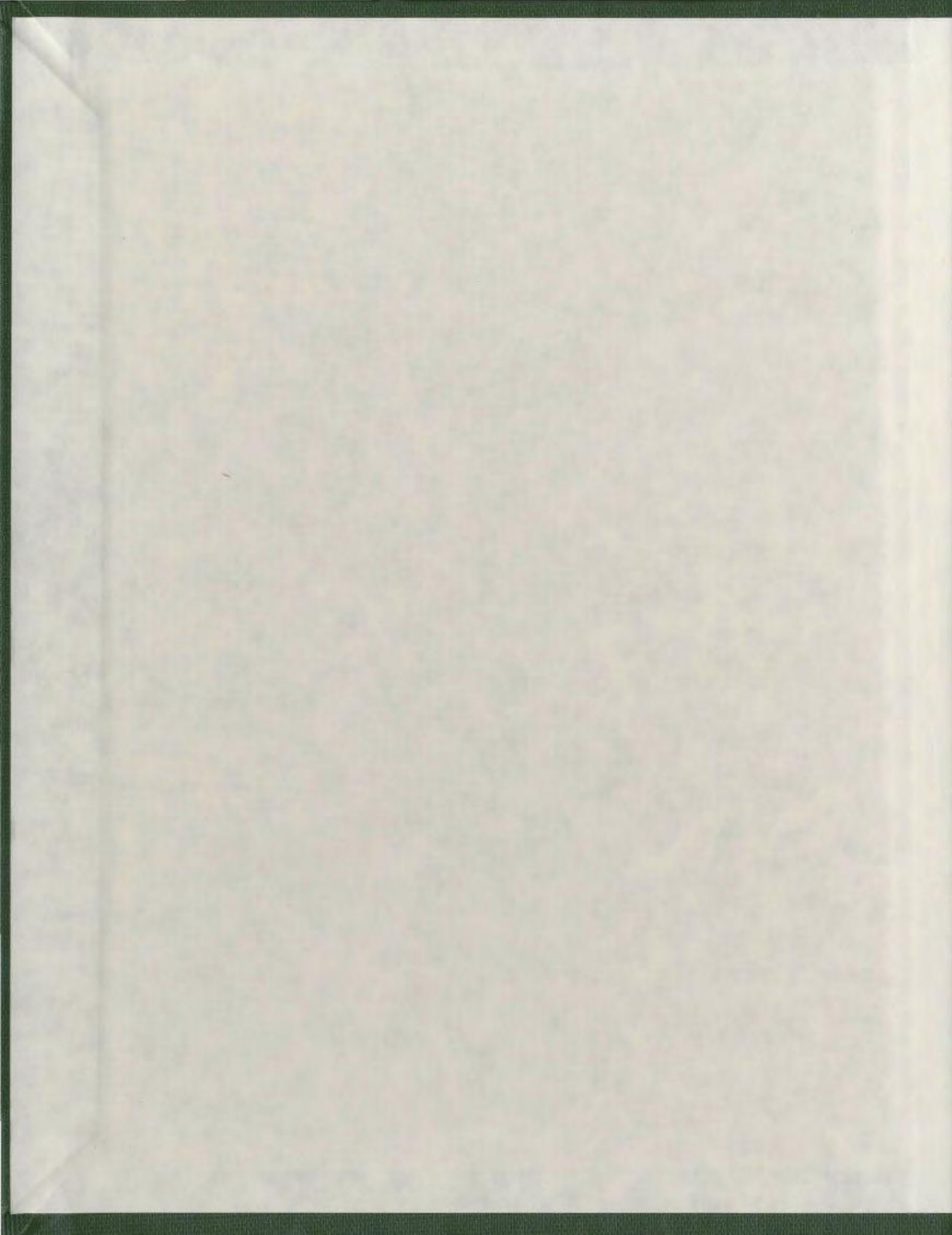
FACTORS RELATED TO READING TEACHER'S  
KNOWLEDGE OF READING: A SURVEY OF  
TEACHERS IN A SELECTED NEWFOUNDLAND  
SCHOOL BOARD

CENTRE FOR NEWFOUNDLAND STUDIES

**TOTAL OF 10 PAGES ONLY  
MAY BE XEROXED**

(Without Author's Permission)

WILFRED JOSEPH CAREY





037108







FACTORS RELATED TO READING TEACHERS' KNOWLEDGE  
OF READING: A SURVEY OF  
TEACHERS IN A SELECTED  
NEWFOUNDLAND SCHOOL BOARD

by



Wilfred Joseph Carey, B.A., B.Ed.

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

Department of Curriculum and Instruction  
Memorial University of Newfoundland

August 1983

St. John's

Newfoundland

ABSTRACT

The major purpose of this study was to ascertain whether or not a relationship exists between a teacher's knowledge of reading and each of the following variables: sex of the teacher, number of years of teaching experience, grade level taught by the teacher, degree level of the teacher, teaching certificate, number of reading courses a teacher has completed, and whether a teacher teaches in an urban or non-urban school. The order of importance of those relationships which were found to be significant was also determined.

One hundred twenty-four teachers from the Roman Catholic School Board, Humber-St. Barbe comprised the population of the study. A measure of teacher knowledge of Reading was determined by means of the scores on the Inventory of Teacher Knowledge of Reading. At the same time, information was also obtained on the independent variables by means of a teacher information sheet devised by the researcher.

Product-Moment Correlation Coefficients and regression analysis were employed on the predictor variables to establish their effect on knowledge of reading.

It was found that a significant relationship exists between teacher knowledge of reading and the following independent variables: experience, certification, urban,



and courses. The variables of sex and grade taught, did not correlate significantly with teacher knowledge of reading.

This study also concludes that while degree, when viewed by itself, is statistically significant, in terms of the total picture it is not significant. The findings which determine the important variables show that certificate is a more exact predictor of teacher knowledge of reading.

Recommendations arising from the findings have been made. Some suggestions for future research are offered.

### ACKNOWLEDGEMENTS

The writer wishes to express his deep gratitude to Dr. Frank Wolfe, the supervisor of the thesis, for his direction and advice in the development of this thesis.

To Dr. Jeffrey Bulcock, whose assistance on the data analysis was invaluable, I thank you sincerely.

My special thanks go to Mr. Gerald Fallon, Superintendent of the Roman Catholic School Board, Humber-St. Barbe, to Mr. William Barker, Curriculum Co-ordinator, and to the teachers who so willingly co-operated in providing the data for this study.

Finally, I would like to dedicate this thesis to my wife, Catherine, for her constant encouragement and understanding and to my children, Kevin and Anne Marie.



- v -

TABLE OF CONTENTS

	page
CHAPTER I: INTRODUCTION TO THE PROBLEM	1
Background to the Study	4
Purpose of the Study	5
Definition of Terms	12
Basic Assumptions of the Study	12
Limitations of the Study	13
Overview	13
CHAPTER II: REVIEW OF RELATED LITERATURE	15
Do Schools and Teachers Make a Difference?	15
The Influence of the Teacher	18
Teacher Characteristics	23
Studies Specifically Related to Reading	27
Validation Studies of the Inventory of Teacher Knowledge of Reading	28
Conclusion	32
CHAPTER III: DESIGN AND PROCEDURE	33
Description of the Population	35
Data Sought by the Study	35
Hypotheses	36
Description of the Instrument	37
Processing the Data	41
Coding	41
Data Analysis	43
Conclusion	44
CHAPTER IV: ANALYSIS OF THE DATA	45
Statistical Properties of the Variables	45
Correlation Coefficients	55
Multivariate Relationships	57
Conclusion	64
CHAPTER V: SUMMARY, IMPLICATIONS, RECOMMENDATIONS	70
Summary	70
Theoretical Implications	71
Practical Implications	75
Some Suggestions for Further Research	83

	page
REFERENCES	84
APPENDICES:	92
Letter of Permission	93
Letter of Introduction	95
Teacher Information Sheet	98
Answer Sheet to Accompany <u>Inventory of</u> <u>Teacher Knowledge of Reading</u>	100
<u>Hierarchy of Meaning Skills</u>	102
Reading Study Skills	104

LIST OF TABLES

	page
Table 1--Description of Subjects According to the variable SEX (Sex of Teacher).	48
Table 2--Description of Subjects According to the variable GRADE (Grade Level Taught).	49
Table 3--Description of Subjects According to the variable DEGREE (Degree Level of Teacher).	50
Table 4--Description of Subjects According to the variable CERT (Teaching Certificate).	51
Table 5--Description of Subjects According to the variable COURSES (Number of Reading Courses Completed).	52
Table 6--Description of Subjects According to the variable URBAN (Teacher in an urban versus a non-urban area).	53
Table 7--Description Statistics for Variables in the T.K.R. Model.	54
Table 8--Correlation Matrix of T.K.R. Variables	56
Table 9--Beta Coefficients and Significance Levels of the Relationships in the T.K.R. Model	60
Table 10--Beta Coefficients and Percentages of Variance Accounted for by Each of the Predictor Variables.	61
Table 11--Ranking Independent Variables.	66



LIST OF FIGURES

	page
Figure 1--Relationship Between Experience and T.K.R., Controlling for Sex.	63
Figure 2--A Conceptual Model of the Factors Affecting T.K.R.	65

## CHAPTER I

### INTRODUCTION TO THE PROBLEM

In the very considerable literature on the reading process, there are numerous examples of studies aimed at improving reading instruction. These studies focus primarily upon teaching practices in classroom instruction. A crucial aspect which has received scant attention, however, is the area of actual teacher knowledge of the very process of reading.

As the research reviewed in Chapter II will illustrate, a teacher's understanding of the subject he teaches is one of the variables of teacher effectiveness. Miller's (1971) assessment of the problem suggests that knowledge of subject matter is the most important competency necessary for the success of classroom teachers. Yet the literature reveals that little research has been conducted in the area of teacher knowledge of reading (Rorie, 1978, p. 606).

When we apply this to the area of reading instruction, teacher knowledge becomes even more crucial. Here we find, as with perhaps no other area of the curriculum, that subject matter, method, teacher knowledge, and desired student learnings are woven so tightly together as to be virtually inseparable.

What, then, is the role of the reading teacher?

What should a reading teacher know and what should he be

doing to assist children to achieve literacy? Smith (1978)

says:

"The teacher's role is not to be a blind purveyor of materials nor a cog--or a transistor--in a technology of instruction. The teacher's role is to motivate, encourage, and help children to learn to read. To do this teachers must make reading meaningful... Teachers must understand both children and reading".(page 164)

Further to this MacKenzie (1977) states:

"The teacher's essential role is to set up a rich learning context, to provide a range of books and purposes and opportunities for reading, to pick up and interpret the signals given by the learner and provide the teaching she or he needs then. The teacher uses knowledge of language and the structures involved in literacy to do this".(page 323)

Goodman (1977) also adds support to this view of teacher knowledge:

"The teacher must be knowledgeable in linguistic and cognitive development, insightful in monitoring the progress of learners in acquiring the ability to get and express meaning through the written language, and able to plan experiences to help children to learn". (page 312)



Harste (1978) and Harris (1970) also support this idea of teacher knowledge by inferring that effective reading instruction depends in large part on a teacher's knowledge of reading. Harste suggests that both the teaching and learning of reading are based upon theory and that it is more productive to look at reading instruction in terms of a theoretical orientation rather than in terms of reading approaches. Harris concluded that research into the cognitive aspects of reading should provide insights into how the process works. This, in turn, will make teaching more precise and enjoyable.

\* If teacher knowledge of reading is an essential component of effective instruction and learning, to what degree do teachers possess this knowledge? What are the factors which affect knowledge of reading? To help answer these and related questions, a literature search was conducted which uncovered surprisingly few studies dealing directly with teachers' knowledge of reading. Three studies (Buik and Duffy, 1979; Bawden, et. al., 1979; and Bawden and Duffy, 1979) were found. These researchers investigated the relationship between teachers' conceptions of reading and the effects such conceptions had on instruction. The term "conceptions of reading" as used by these researchers, while referring to reading methods and approaches, bears significantly on the problem at hand. These studies will be reviewed in more detail in Chapter II.

Studies by Artley (1971); Kingston, et. al., (1975); Koenke, (1975); Rorie, (1978); and Ellsworth and Miller, (1980,) deal specifically with the problem of examining teacher knowledge of reading using the instrument which is employed directly in this study. Again, these studies will be discussed in more detail in Chapter II.

#### BACKGROUND TO THE STUDY

This researcher became interested in this particular aspect of the area of reading in a rather circuitous manner. During the summer of 1981, while discussing a possible research area with the thesis adviser, Dr. Frank Wolfe, a tentative topic was developed concerning whether all teachers should be expected to be teachers of reading or, indeed, if all teachers could be teachers of reading.

It seemed, in many instances, that the oft-repeated statement "Every Teacher a Teacher of Reading" became something of a cliché and had little substance in fact. Very little, it seems, has ever been done to help all teachers become teachers of reading. In considering whether this concept were myth, reality, or if it were indeed at all possible, it began to be apparent that the whole issue seemed to hinge on whether or not all teachers were able or equipped to be teachers of reading.

Since, the study has finally evolved into its present form--a survey of a representative group of local

(Newfoundland) teachers in the hope of determining (1) the extent to which they possessed the knowledge essential to the actual teaching of reading, and (2) the extent to which the variables of sex, experience, grade taught, degree level, teaching certificate, courses in reading, and teaching in an urban versus non-urban areas affect knowledge of reading.

#### PURPOSE OF THE STUDY

It is the intention, in this study, to analyze data concerned with this basic aspect of teacher qualification: teacher knowledge of reading teaching theory.

Some attention, admittedly, has been given to the problem in the United States and parts of Canada. However, there seems to be an absence of research in the area as it affects Newfoundland. This study, therefore, will examine teacher knowledge of reading among teachers presently employed with a selected Newfoundland school board.

The purpose of the study is to attempt to determine the extent to which primary and elementary school teachers possess information necessary for teaching reading and to determine what effect such factors as grade level taught, years of teaching experience, teaching certificate, degree level, and number of reading courses have on the possession of this information.

It is not the intention in this study to attempt to describe or to compare "good" teachers of reading versus

"bad" teachers of reading according to a set of criteria. There are no definitive research data which can be used to identify, for once and for all, the characteristics and practices of teachers of reading who produce both skillful and motivated readers (Artley, 1975, p. 26).

The primary motivation for this study is a concern which is shared by many involved in education in the province of Newfoundland: the knowledge that we are not so successful as we would like to be in the area of reading instruction.

The problem, of course, is extremely complex. Just a few of the influences on student learning are: teacher training, teacher expectations, teacher personality, the nature of the curriculum, student personality, student self-image, and student motivation. There are, of course, other factors of equal or greater importance, but these few should serve to remind us of how complicated teacher-student interactions really are.

As Griffin and Brousseau (1974) say, however:

...we think it can be assumed from research that the teacher is the essential element in a successful program. All else serves only a supportive role.... (page 2).

Although there may well be many ways to approach the problem, we might note Artley's (1969) words: "It is necessary to train better teachers of reading than expect a panacea in any other form" (page 241).



It is not the intention, in this study, to accuse teachers. However, since much research points to the teacher as an essential component in student learning, and to teacher knowledge as a crucial quality of the teacher, it would perhaps be enlightening to collect and analyze data concerning teacher knowledge of reading. This will be attempted directly in an area of the province which is likely representative of this province as a whole.

The validation studies reviewed in Chapter II (Koenke, 1975; Kingston, Brosier and Hsu, 1975; Rosie, 1978; and Ellsworth and Miller, 1980) are concerned mainly with students enrolled in programs at several teacher education institutions in the United States and often involve a combination of students and practicing teachers.

The teaching situation in Newfoundland at present is relatively static in terms of teacher turn-over in the primary and elementary grades, and considering the age of many of our teachers, the situation is likely to remain so for some time. For collaboration on this point see Executive Secretary's Report to the August, 1983, Executive Meeting, N.T.A. in the 1983 Newfoundland-Canadian Environment. It might, therefore, be of some benefit in terms of inservice needs, to collect and analyze some data from teachers engaged in actual classroom instruction in the province.

To generate data on the local level, the Inventory of Teacher Knowledge of Reading (A. Steryl and Veralee B. Hardin, 1975) was used as the instrument for surveying 135 teachers. This instrument will hereafter be referred to as "the Inventory."

It should be noted that the instrument employed in this study is intended to assess teachers' understanding of the reading process and knowledge of strategies used in reading instruction at the primary-elementary level (Artley and Hardin, 1975).

An examination of the various categories and the items which make up the Inventory demonstrates that the instrument is suitable in that it evaluates knowledge of the areas as outlined in the definition of knowledge of reading as developed later in this chapter.

Coombs, Blume, Newman, and Wass, (1974,) remind us that a caution is in order at this point:

Everyone is familiar from his own behaviour with the fact that there is a considerable gap between knowing and behaving...possessing knowledge is no guarantee that a person will use it.... (page 30)

Thus knowledge of reading and instructional practices are not necessarily reflected in what actually goes on in the classroom. However, knowledge and practice, although distinct, certainly must be two closely related variables associated with instruction. As Artley and Hardin (1971) point out: "Effective practice cannot be carried on without an understanding of what it is one is teaching."

It would, perhaps, be appropriate to attempt to state in a fairly succinct manner, at this time, what is meant by "knowledge of reading." On this issue, it would be useful to recall what Smith (1978) has to say:

"Current instructional methods are probably not much different from the methods that will be developed as we learn more about learning to read. So many instructional methods have been tried, and so many succeed (in some instances at least) that further permutations in the game of instructional roulette are unlikely to produce any great gain, either by chance or design. What will make a difference is an understanding of the reading process." (page iii)

The concluding sentence of this quote has been underlined here because it seems to lend credence to an assumption upon which this study is based: that knowledge on the part of the teacher is of critical importance in the area of reading.

Smith is not denigrating the role of instructional techniques--he is simply saying that enough attention has been paid this aspect that we can now direct our attention to developing an understanding of: what takes place in the reading act, how beginning reading can be fostered, and how fluent reading can be achieved.

An understanding, or a "knowledge" of reading, as it is used in this study, requires some familiarity with research developments in the various related areas such as language, communication, learning theory, the acquisition of speech, and the physiology of eye and brain (Smith, 1978, page iv).

It would be unrealistic to suggest that all teachers of reading become experts in these areas--most teachers have no time to undertake deep or specialized studies in these

areas. At the same time, however, it would be realistic to expect on the part of reading teachers an "acquaintance" or familiarity with these areas. This could be achieved, perhaps through several channels, of which more will be said in Chapter V.

Listed below are several areas felt to form the basis of a sound teacher knowledge of reading. These areas were arrived at by a survey of several prominent writers in the field (Clymer, 1968; Schnepf and Meyer, 1981; Smith, 1978; Spache and Spache, 1970) and are felt to represent a common view of what constitutes a sound background of teacher knowledge of the reading process.

- (1) Knowledge about the nature of language and language development.
- (2) Knowledge about the relationship between reading and the three other communications skills (speaking, writing, and listening).
- (3) Knowledge of reading implications of other curriculum areas (mathematics, science, and social studies in particular).
- (4) Knowledge of children's concept development.
- (5) Knowledge of children's literature in order to help children and parents select books from various types of literature and to read the best books to children.



- (6) Knowledge about children's interests and taste in reading.
- (7) Knowledge about sound-letter relationships in our language.
- (8) Knowledge about the nature of decoding.
- (9) Knowledge of how children learn to recognize and perceive words.
- (10) Knowledge of a hierarchy of meaning skills as well as the relationship among skills (see Appendix C).
- (11) Knowledge of the various reading study skills (see Appendix D).
- (12) Knowledge of the characteristics of an efficient, versatile reader.
- (13) Knowledge of the importance of interpersonal relationships (teacher expectations, student self-concept, student needs, intelligence, etc.).
- (14) Knowledge of instructional techniques.
- (15) Knowledge of current developments and trends in reading.

This study represents an attempt to assess the "understanding-function" in a local context. It will be exploratory in nature and will seek to provide descriptive data.

DEFINITION OF TERMS

- (1) Reading Teacher: A teacher engaged in classroom instruction of reading as a sole teaching assignment or as supplementary to the teaching of other subjects.
- (2) Primary Grade Teacher: This term refers to any person teaching in Grades K-3.
- (3) Elementary Grade Teacher: This term refers to any person teaching in Grades 4-6.
- (4) Reading Instruction: This term is interpreted to mean planned instruction to achieve-specific goals relevant to the acquisition of reading skills.
- (5) Teaching Certificate: This term is interpreted to refer to the documentation of the degree to which a teacher is professionally qualified by the registrar of teacher certification of the Newfoundland and Labrador Department of Education.

BASIC ASSUMPTIONS OF THIS STUDY

The most pertinent assumptions underlying the research reported in this study are as follows:

- (1) Knowledge of Reading represents an important concern of teachers in the primary and elementary grades.

- (2) The instrument used measures teacher knowledge of reading.
- (3) The subjects responded to the Inventory in a frank and conscientious manner.

#### LIMITATIONS OF THE STUDY

The chief limitation of this study was that it was restricted to a specific area of the province with a view to surveying teacher knowledge of reading. Therefore its findings must be restricted to populations judged as being similar to the population investigated here.

The Inventory itself imposed a limitation on this study because of its length and the amount of time required to complete it. This could result in fatigue on the part of the respondent. (Anonymity of respondents was preserved throughout the study.)

Finally the Inventory was developed from research conducted on a different population of primary and elementary teachers.

#### OVERVIEW

##### Chapter I:

This chapter provides a brief statement of the problem and of the purpose of the study.

##### Chapter II:

This chapter presents a review of the related literature. A review of studies pertaining to the

controversy over the general effect of the teacher on pupil learning is followed by a review of studies of teacher knowledge as a factor in pupil learning. There follows a review of literature on teacher characteristics and what makes a good teacher of reading. This is followed by an examination of literature concerned with the Inventory of Teacher Knowledge of Reading.

Chapter III:

This chapter presents the general design of the study, a description of the population, and a description of the instrument used.

Chapter IV:

This chapter presents the analysis and interpretation of the data.

Chapter V:

This chapter summarizes the findings and presents conclusions and recommendations.

Appendices:

This section contains a letter of permission from the school board concerned, a copy of the Inventory of Teacher Knowledge of Reading, a copy of the letter of introduction to and directions for teachers, a copy of the teacher answer sheet, a copy of the teacher-information form, a hierarchy of Meaning Skills, and a list of Reading Study skills.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### DO SCHOOLS AND TEACHERS MAKE A DIFFERENCE?

There has been much debate concerning the influence of schools and teachers upon student learning.

The Coleman Report (1966) was used in the 1970's as "evidence that schools are virtually inconsequential or marginal institutions in changing the lives of the disadvantaged." Strangely, however, Coleman concluded that for the disadvantaged,

"it is important to replace the family environment...by starting school at an earlier age, and by having a school which begins very early in the day and ends very late." (Coleman, "Equal Rights or Equal Students?", The Public Interest, Summer, 1966, p. 74).

Jencks (1972) and his associates used Coleman's data to "prove" that schools make no difference. According to Jencks, "The character of a school's output depends largely on a single input, namely the characteristics of the entering children," and that "everything else regarding the characteristics of the school is either secondary or completely irrelevant" (Jencks, p.259).

Leading social scientists were quick to embrace the view of Jencks. Stincombe (1972) and Lipset in Hodgson (1973, p. 35) immediately accepted the Jencks study as valid. Lipset stated: "Schools make no difference."



Studies leading to conclusions of this type sparked interest in the effects of schooling and in 1972 the Rand Corporation was contracted to review the research literature on the question of the effects of schooling. The Rand Corporation acknowledged that "research has found nothing that consistently and unambiguously makes a difference in student outcomes," and suggested

"There seem to be opportunities for significant redirection and in some cases reductions in educational expenditures without deterioration in educational outcomes". (The Rand Corporation, 1972, p. xiii.)

Moynihan immediately cited the Rand report as evidence that "there is a strong possibility that we may be already spending too much" (Moynihan, 1972, p. 73).

These negative reports and statements were given wide coverage in the media and gave rise, also, to a number of articles in the press claiming that as the amount spent on education increases, student achievement goes down (Armbruster, 1977).

In making their case, the social scientists and journalists seem to have ignored the fact that the research cited

"fails to account for almost two-thirds of the variables ... the two-thirds representing the proportion of variance beyond the measuring capability of the research instruments and methodological design". (Tanner and Celso, 1981, p. 3)

Myrdal says that

"aside from the growing evidence that macrostatistical survey research is inappropriate for identifying the qualitative variables that are related to educational achievement, social scientists suffer from a negativistic bias and find it much easier to build their reputation by debunking established institutions and by using narrow empirical data opportunistically to support their biases". (Myrdal, 1969, page 6)

Most data suggesting that schools and teachers do not differ significantly from one another in their effects upon students come from studies with questionable conceptualization or design (Good, Biddle, and Brophy, 1975; p. 54). Studies with improved designs indicate that teachers can have effects which are both statistically and practically significant.

Rosenshine and Furst (1973) reviewed many of these studies and concluded that students learned best when the following teaching characteristics were present: clarity, variability in teaching methods, curricula, and/or media, enthusiasm; task-oriented and/or businesslike behavior; indirectness; student opportunity to learn the material; teacher use of structuring comments; and multiple levels of questions or cognitive discourse.

Other variables that appear to be effective include: teacher redirection of student comments for reaction from other students; teacher expectations for achievement;

thoroughness in teaching; and the extent to which the teacher has knowledge of the lesson and follows the specified lesson formats.

Rosenshine and Furst caution that since most of these relationships come from correlational rather than experimental studies, it would be premature to claim that the teacher behaviours caused the student learning gain. However, they hold that the consistency of these correlational data strongly suggest that the process-product associations are real, and that well-designed experimental studies involving these teacher behaviours are likely to yield positive results.

In short, a teacher who is determined to teach the content that he is supposed to teach, who is well prepared and organized in his instructional behaviour, who is enthusiastic and skilled in motivating students, and who encourages students to become involved in an active way in the learning process is more likely to be successful than a teacher who lacks one or more of these characteristics.

#### INFLUENCE OF THE TEACHER

Green, et. al. (1966), Kounin (1970), Lundgren (1972), Evertson (1974), and Duncan and Biddle (1974) offer evidence to support the research conclusions of Rosenshine and Furst. Chall (1967) stressed that the teacher is at least as important as the curriculum in determining student learning.

She stresses that simply purchasing an innovative curriculum will not ensure success: teachers must be motivated to desire to teach the new curriculum properly and be trained to do so.

Good, Biddle, and Brophy (1975) stress that although a teacher is partially an artist with an unique, individual approach, teaching

...is (or should be) only partially an art. As knowledge about effective teaching accumulates, teaching should increasingly become an applied science. The skilled teacher will be one who has mastered a large body of principles and skills, and who is capable of diagnosing a situation correctly and deciding which of the many options available to him are appropriate to the situation.... However, once he has made his diagnosis and decided what to do, he will proceed in his own unique way, drawing on his unique experiences, talents, and interests (page 74).

Guszak (1966) agrees with this. He says,

...essentially, the problem stems from the age-old concern relative to the effect of theoretical preparation upon subsequent practices and the ensuing question which asks whether teaching is an art or a science. Those who hold that teaching is an art suggest that professional knowledge can have little effect upon the intuitive teaching art.... While intuitive elements are important components, there are numerous techniques in any art form that assist the artist in carrying out his production (page 1).

Bond and Dykstra (1967) conclude that children seem to learn by a variety of materials and methods. They state, "...no one approach is so distinctly better in all situations and respects than the others that it should be considered the best method and the one to be used exclusively" (page 123). In other words, improved reading achievement does not appear to be a function solely of approach or method. Bond and Dykstra continue:

Future research may well centre on teacher and learning situation characteristics... The tremendous range among classrooms within any method point out the importance of elements in the learning situation over and above the methods employed. To improve reading instruction, it is necessary to train better teachers of reading rather than expect a panacea in the form of materials. (page 123).

A similar assertion has been made by others. Ramsey (1962), in an evaluation of three grouping procedures for teaching reading, concluded,

The thing that the study probably illustrates most clearly is that the influence of the teacher is greater than that of a particular method, a certain variety of materials or a specific plan of organization. Given a good teacher, other factors in teaching reading pale to insignificance (page 153).

A study by Harris and Morrison (1969) reiterated the conclusions of the preceding studies. These authors reported a three-year study and a replicated two-year study



of two approaches to teaching reading, basal readers versus language-experience. They found, as did Bond and Dykstra (1967), that differences in mean reading scores within each method were much larger than differences between methods and approaches. They write,

The results of the study have indicated that the teacher is far more important than the method. Costly procedures such as smaller classes and provision of auxiliary personnel may continue to give disappointing results if teaching skills are not improved. It is recommended, therefore, that in-service workshops and expert consultive help be provided for all teachers and especially for those with minimal experience (page 339).

In other words, these studies seem to be clearly suggesting: to improve pupil achievement in reading, one should look first at the teacher and his training.

However, as Artley (1969) says,

...To look at the teacher and his training presents a problem in need of an answer. What teacher characteristics or teaching behaviors appear to differentiate the effective teacher of reading from the ineffective one? What seems to make a difference between "good" and "poor" teaching? (page 4).

Knowing the answers to such questions as these would make it possible to select reading teachers with certain characteristics. It would also be possible to plan pre- or in-service training so as to prepare teachers with certain skills and understandings that appear to be associated with maximum pupil growth.

Jackson (1966) states:

Almost all of the noble crusades that have set out in search of the best teacher...have returned empty-handed. The few discoveries to date are pitifully small in proportion to their cost in time and energy. The few drops of knowledge that can be squeezed out of a half century of research on the characteristics of good teachers are so low in intellectual food value that it is almost embarrassing to discuss them (page 7).

A highly regarded study of teacher characteristics is that reported by Ryans (1960), who set out to identify the general personal and social characteristics that would distinguish groups of teachers receiving high and low assessments as indicated by a self-report inventory and observations of classroom behaviour by trained observers. Three dimensions of teacher classroom behaviour were identified, namely, "X" - warm, understanding, friendly, versus aloof, egocentric, restrictive; "Y" - responsible, systematic, versus unplanned, slipshod; "Z" - stimulating, imaginative versus dull, routine. Analysis indicated that the "highly assessed" teachers were assigned more favorable opinions of pupils and administrators than "low assessed" teachers, and that pupil behaviour was closely related to teacher behaviour, at least on the elementary school level.

### TEACHER CHARACTERISTICS

Studies by Flanders (1960) and Amidon and Flanders (1963) were concerned with the development and use of a system of interaction analysis. Verbal behaviour of teachers in the classroom was studied by trained observers and categorized as "indirect" (eliciting creative and voluntary pupil behaviour) or "direct" (eliciting conformity and compliance). An indirect/direct (I/D) ratio was derived for each teacher studied. It was assumed that certain kinds of teacher statements--those that indicate acceptance, encouragement, and praise--encourage student participation, while other kinds--indicating commands, criticism, and statement making--inhibit student participation. The degree and quality of student participation, in turn, affects achievement. To verify these assumptions the researchers were able to show that in seventh and eighth grades social studies and mathematics, students who were taught by teachers with a high I/D index achieve to a greater extent than those taught in a direct manner.

Another study, conducted by Amidon and Giammates (1965), showed that elementary teachers selected as "superior" by their supervisors and administrators showed a higher incidence of indirect teacher talk when teaching language arts than that used by a randomly selected group of teachers. The authors conclude that,

The results...would seem to indicate that verbal behaviour patterns of superior teachers can be identified and that these patterns do differ markedly from the verbal behaviour patterns of other teachers (page 285).

Meux and Smith (1964) developed another approach to identifying significant teaching behaviours. They classify teaching behaviour in terms of its logical qualities through observations of the teacher in the classrooms. Classroom interaction is categorized into "logical dimensions of teaching" involving such things as defining, describing, stating, explaining, etc., on the assumption that classroom discourse may be identified and analyzed in terms of rules of logic. On the basis of their analysis, they conclude that increased pupil understanding and improved thinking ability are outcomes of instructions where teachers are taught to handle the logical operation involved in teaching.

The preceding five studies have undoubtedly made important contributions to our understanding of teaching. However, they provide little information relative to the improvement of reading instruction, per se.

Artley (1969) is critical of these studies, first because the teacher is being studied as a generalist, non-specific to any teaching area or any grade level. Second, such studies have failed to give us any information about the teacher's teaching procedures, the content she teaches, the understandings she must have. As he points out, it is



conceivable that an observer might make use of one of the interaction analyses and derive for a fourth grade teacher a high score while observing a round-robin oral reading class. The teacher-talk is at a minimum, she asks questions, she is accepting the child's responses, she praises and encourages; yet who would accept this as an effective way of conducting a reading lesson? Or in another situation the teacher may be well-groomed, poised, efficient, gracious, and get along well with her co-workers and principal, and yet never have had a course in the teaching of reading.

Artley (1973) states that the majority of studies of teacher effectiveness have dealt with the systematic observation and analysis of the verbal communication taking place between teachers and pupils. Though the generalizations from these studies have peripheral relation to reading instruction, they fail to identify specific teacher behaviours and practices that are unique to reading instruction, and most of all, they would show a positive correlation with pupil achievement and interest.

It is not enough to identify the "good teacher"; we must identify and describe the good teacher of reading if the information is to be of help in the preparation of reading teachers (p. 2).

Artley states that these studies should not be depreciated in their value or significance--they have made and are making a contribution to the understanding of the

teaching process and are therefore relevant to any area. We need more information on the characteristics of the good teacher of reading to provide help in developing teacher education or training of reading teachers.

There are, of course, more and more studies being conducted in the area of reading or closely approaching the type needed. Turner and Fattu (1960) see teaching behaviour as problem-solving ability, involving the use of learning sets and specific responses relevant to the teaching situation. In reading, a "Teaching Tasks in Reading" test was developed, to assess a teacher's understanding and application of skills in such areas as selecting appropriate instructional materials, grouping children, judging improvement, diagnosing word perception, etc. The authors found that the test differentiated between preparatory teachers, student teachers, and experienced teachers.

Turner (1967) found that a Teacher Characteristics Schedule, which measured nine selected personal-social characteristics such as friendly, organized, stimulating, child-centered, emotional adjustment, etc., and a combined Mathematics Teaching Task and Teaching Tasks in Reading Scale identified teacher characteristics associated with given types of problems of beginning teachers (discipline, management, forming instructional groups in reading, etc.). For example, teachers who had problems in reading appeared

to be disorganized, to lack warmth or friendliness and a high level of imaginative behaviour, and failed to have a favorable attitude toward democratic principles. Turner suggested that a set of measures could be assembled by which problems of beginning teachers could be identified, and through counselling and in-service activities, steps could be taken to solve them.

#### Studies Specifically Related to Reading

From the research cited there appears to be an urgent need for an instrument to determine the degree to which a teacher or prospective teacher understands the important aspects of the teaching of reading.

In this regard, however, there is a problem. The views of experts involved in reading instruction are lacking in agreement on the characteristics or competencies that a reading teacher should possess. There has been extensive research conducted in this area (Shubert, 1959; Aaron, 1960; Broman, 1962; and Ileka, 1968). A major concern of these studies has been the problem of establishing criteria. Stephens' (1967) and Ornstein's (1971) general reviews of the research reveal that in spite of the attempts that have been made to identify variables relating to effective teaching, using model systems, instructional processes, or teacher behaviour characteristics, the findings are inconclusive.

Vander Werf (1958, p. 12) states that there is "some evidence to indicate that a relationship exists between what a teacher knows about (his or her) field and (his or her) success in teaching." Miller (1971) suggests that knowledge of subject matter is the most important competency necessary for the success of classroom teachers.

Harris (1969) suggests that unless we are willing to make teachers merely associates to teaching machines, the improvement of teaching must be a major element in educational improvement (p. 336).

Kingston, Brosier, and Hsu (1975) found that "there is little agreement in developing reliable and valid measures of teacher knowledge of reading, let alone competencies" (p. 133). They suggest that there is little agreement on the knowledge that a "master" teacher of reading should possess.

#### VALIDATION STUDIES OF THE INVENTORY OF TEACHER KNOWLEDGE OF READING

However, one instrument which has in fact gained recognition and acceptance is the Inventory of Teacher Knowledge of Reading (Artley and Hardin, 1971, 1975).

Kingston, Brosier, and Hsu (1975) conducted a validation study of the 1971 version of the Inventory. They administered the instrument to groups of undergraduates without reading courses, undergraduates with

reading courses, elementary school teachers, secondary school teachers and reading specialists. The results of the study indicate the instrument was valid in that it differentiated those with reading backgrounds from those without, as well as specialists and non-specialists. They recommend that the Inventory be used in evaluating the effectiveness of in-service training programs or in evaluating the effectiveness of preservice instruction.

Koenke (1975) carried out a study in which the 1971 form of the inventory differentiated among groups of undergraduate and inservice teachers with varying degrees of training. Both Kingston and Hsu (1975) and Koenke (1975) reported Kuder-Richardson formula (20) reliability coefficients ranging from .73 to .93 for various groups. Factor analysis in these two studies indicated a failure to substantiate the existence of seven subscore areas as was the case with the original factor analysis reported by Artley and Hardin (1971). Both studies supported the conclusion that the instrument was a useful device for global but not differentiated assessment of teacher knowledge.

Artley and Hardin undertook a revision of the Inventory in 1975 with the purpose of providing reliability and validity data. In this revision, new items were prepared and other items were rewritten and revised.



This revised inventory was administered to 552 elementary school classroom teachers. A Kuder-Richardson formula (20) reliability estimate of .92 was reported. A factor analysis indicated that the seven areas from which items were drawn were once again not identifiable as independent factors.

Rorie (1978) undertook an analysis and validation study of the revised Inventory. Content validity was established by seven reading specialists who reviewed each item. Faulty items were revised and rewritten. The instrument was administered to 552 elementary education teachers in inservice workshops or graduate education courses and graduating colleges seniors who were within two weeks of completion of requirements for certification as elementary school teachers.

Using the Kuder-Richardson formula (20), the internal-consistency reliability of the revised Inventory was found to be .92. Again, the seven conceptual areas from which the items for the Inventory were drawn were not found to be "identifiable or to stand apart as separate factors" (p. 607):

The author made the following conclusions:

- (1) the Inventory has sufficient validity and reliability to justify its use as a measure of teachers' knowledge of reading such as in inservice or preservice training, and
- (2) a score indicating an individual's performance on the Inventory should be interpreted as a global measure of

knowledge of reading since the factor analysis indicated that it was impossible to identify discrete areas of teacher knowledge.

In 1980 Ellsworth and Miller did a further study of the reliability of the Inventory. They administered the instrument to a sample of 304 elementary school teachers. Results revealed significant differences among teachers grouped by number of years of teaching experience, degree level, number of reading courses, and grade level taught. All differences were interpreted as supporting the construct validity of the instrument. Internal consistency reliability, using the Kuder-Richardson formula (20) was estimated at .91. Ellsworth and Miller suggest that since their study sampled performance of inservice teachers only and the fact that the selected dimensions differentiated the scores on the Inventory, the instrument may be somewhat more sensitive than it has previously been considered to be.

The Kingston et. al., (1975) and Koenke (1975) studies judge the instrument valid because it differentiated those without training and experience and those with training and experience. The Ellsworth-Miller (1980) study judged the 1975 revision to be valid because it differentiated inservice teachers on the dimension of number of years of teaching experience, degree level, number of reading courses previously taken, and grade level

taught.

Again, the study concludes that the data substantiates the conclusion that the Inventory can be used to differentiate among subsamples of teachers who differ on specifically selected characteristics.

### CONCLUSION

Although there has been much controversy concerning whether schools and teachers do in fact have an impact on student learning, the overwhelming conclusion of the majority of the studies reviewed indicate that the answer is in the affirmative.

Recent research indicates that improved reading achievement does not appear to be a function solely of approach or method. There is much evidence in the literature which suggests that the teacher is the key factor in reading achievement.

Much research has been conducted in the area of teacher characteristics which detail many qualities, personal and academic. Ample research evidence indicates that teacher knowledge is one of the critical aspects of teacher qualification.

An instrument has been developed by Artley and Hardin (1975) which claims to measure teacher knowledge of the reading process and classroom practices. This instrument has been validated by several researchers and has been found to be generally reliable.

## CHAPTER III

### DESIGN AND PROCEDURE

To collect data concerning the knowledge of reading of teachers in the classroom engaged in reading instruction, a survey was carried out with practising teachers.

In February of 1983, this researcher approached the Superintendent of the Roman Catholic School Board, Humber-St. Barbe, to request permission and support of the school board in carrying out this study with the co-operation of teachers employed with the board. The superintendent agreed to the conducting of the study. Appendix A contains the letter of permission from the Superintendent.

After careful consideration, this particular method, rather than attempting a sample of teachers province-wide, was decided upon, for several reasons:

(1) the difficulties imposed by distance, cost, and time. The distribution and collection of the research packages would be difficult and would quite likely result in a low return. This difficulty was accentuated by the length of the Inventory (of which more will be said later).

(2) Since the investigator was employed in the area as a working teacher, such immediacy allowed more freedom and flexibility in the distribution and collection of the research packages. (3) It was felt that the board in

question would adequately fill the requirement of being representative of other areas of the province and would have some possible relevance in other settings.

During the months of March and April in the 1983 school year, a research package (which appears in Appendix B) was distributed to 135 primary and elementary teachers involved in reading instruction and employed with the Roman Catholic School Board, Humber-St. Barbe. This represents the total teacher population of the school board who were involved in reading instruction at the primary-elementary level. The research package contained:

(1) a copy of the Inventory of Teacher Knowledge of Reading; (2) a copy of an answer sheet to accompany the Inventory; (3) a teacher information sheet and (4) a letter of introduction and explanation.

In most instances, the research package was distributed by hand to the principal of each school. The principal then distributed them to each staff member. In a few instances, however, involving the schools on the Northern Peninsula, distance dictated the use of the mails for collection purposes. Distribution in these cases was handled through the cooperation of the Curriculum Co-ordinator, who was making a regular visit to those schools at that time.



### THE POPULATION

The population was made up of teachers in small rural schools as well as in large city schools, male teachers as well as female, representatives from primary as well as elementary grade teachers. A further breakdown of these will be provided in Chapter IV.

It is felt, then, that the board in question could justifiably be considered to be representative of the Province itself.

The total number of teachers who responded was 127, representing a return of 94 percent. At this point it was decided to begin analysis since it was judged unlikely that any more returns would be forthcoming. It was also felt that with such a high return, the study could reasonably be considered an exhaustive one.

### DATA SOUGHT BY THIS STUDY

The data collected by this study was based on multiple-choice questions, placed on answer sheets by anonymous respondents. It consisted, in addition to the Inventory and answer sheet itself, of a Teacher Information Sheet. The purpose of the latter was to gain information on each respondent regarding professional qualifications, teaching certificate, number of university courses in reading, grade level taught, and number of years of teaching experience. This information, together

with the results of the Inventory will form the basis of the Analysis of Data in Chapter IV.

### HYPOTHESIS

The following were the hypotheses for this study:

- Hypothesis 1: There will be no relationship between sex and teacher knowledge of reading.
- Hypothesis 2: The greater a teacher's years of experience, the more knowledge of reading he will possess.
- Hypothesis 3: Grade taught will have no effect on teacher knowledge of reading.
- Hypothesis 4: There will be a significant relationship between degree level and teacher knowledge of reading.
- Hypothesis 5: The higher the teaching certificate, the greater the teacher knowledge of reading.
- Hypothesis 6: There will be a significant relationship between number of reading courses done and teacher knowledge of reading.
- Hypothesis 7: Teaching in an urban area versus a non-urban area will affect teacher knowledge of reading.

### DESCRIPTION OF THE INSTRUMENT

The Inventory of Teacher Knowledge of Reading was chosen as the instrument to determine the degree to which a teacher understands or possesses knowledge of the important factors of reading instruction. This particular instrument was chosen because: (1) there is little else available commercially at this time; (2) the extreme difficulty of determining the criteria upon which to construct a questionnaire for this purpose and the difficulty of constructing items; (3) the consensus in the literature that the Inventory represents a valid instrument and yields a reliable measure of teacher knowledge of reading (see validation studies reviewed in Chapter II).

Artley and Hardin (1975) states that the Inventory was developed to

"...aid in the assessment of an individual's understanding of the reading act and the strategies used in reading instruction at the primary-elementary level."

The Inventory was designed to serve several purposes: (1) to provide clues to reading supervisors or directors or inservice programs as to topics or items of information for which teachers are in need of professional understanding; (2) to provide researchers interested in teacher variables and their effect on pupil performance with an instrument that deals with the professional information

variable; (3) to denote changes taking place in inservice groups as a result of instruction; (4) to supply information to teachers of preservice reading methods course or programs as to the understanding levels of their students.

The original 1971 version of the Inventory was administered by Artley and Hardin to approximately 13,000 teachers throughout the United States. Based on the results of this testing, and in order to refine the 1971 edition, the instrument was revised in 1975. The authors intended, by means of this revision, to supply users with validity and reliability data.

In order to carry out the revision, the authors examined reading methods texts to identify areas that were consistently treated so as to ensure adequate coverage of the reading area. These seven areas include: (1) the reading act; (2) preparing for reading; (3) word identification, recognition, and perception; (4) comprehension and critical reading; (5) study skills and reading in the content areas; (6) development and (7) overcoming difficulties. The authors further suggest that these seven areas and the Inventory items which sample them, are frequently included as content in basic pre- or inservice methods courses in reading and are considered to be major factors in reading instruction.

These seven areas also seem to address themselves adequately to an assessment of the knowledge of reading as understood in the explanation provided in Chapter I.

Inventory items, numbering 97 in total, were drawn from these seven areas and cast in multiple-choice form. Each item has four possible answers, one of which is considered to be most adequate. There is no time limit. However, a "dry run" with two reading teachers (not included as part of the study population) established 1 hour--1½ hours as the approximate time required to complete the Inventory.

The Inventory items were submitted to a representative group of reading specialists who were asked to check each item for its value as a valid and important "bit" of professional information. Items were rewritten or revised in light of comments made by the reading specialists. In this way, the authors established content validity.

The revised Inventory was then administered to 552 practising elementary classroom teachers representing heterogeneous ages, years of experience, preparation, and teaching levels. The data were analyzed and items having a low reliability were removed.

The data were again analyzed with the following results: (a) The Kuder-Richardson formula 20 indicated a reliability of .92; (b) a factor analysis indicated that the seven areas from which the Inventory items were drawn were not identifiable as discrete factors.



The authors conclude from their findings that the Inventory has a sufficient degree of reliability to justify the uses for which it was intended. However, a score indicating an individual's performance should be interpreted as a global measure of understanding rather than as a composite score derived from seven clearly identifiable subtests.

The authors state that no norms are available for the Inventory because it was not their intent to use the instrument for comparative purposes. They suggest that if a base-line score is required, the user may establish local norms for comparison purposes.

Analysis and validation studies (referred to in detail in Chapter II) were conducted by Kingston, Brosier, and Hsu (1975) and Koenke (1975) on the 1971 version of the Inventory. Rorie (1978) and Ellsworth and Miller (1980) conducted validation studies using the revised version developed in 1975.

These validation studies conclude that the Inventory of Teacher Knowledge of Reading is a useful instrument for assessing teachers' knowledge about reading such as in inservice or preservice training. They also re-iterate the authors' words concerning the score as indicating a global measure of knowledge. They suggest that the Inventory does differentiate those with a reading background from those without such.

## PROCESSING THE DATA

### Scoring

In order to ensure the anonymity of the respondents, the Inventory answer sheets and teacher information sheets were not scored simply as they were returned. They were separated into two groups--"urban" and "non-urban", and scoring began when the last one was received. "Urban" is to be understood as referring to a community of 20,000 and above.

The Inventory items were hand-scored by the researcher according to the answer key accompanying the test.

### Coding

Within one month of the completion of the testing period, all answer sheets had been scored. The results were later tabulated and coded for processing by the Memorial University Computer Services.

Each teacher was assigned a number starting with 001 and ending with 124. There were originally 127 respondents but 3 of the answer sheets were rejected. The sex of each teacher was coded as 01--female and 02--male. This variable was called "SEX".

Grade level taught was coded using 7 categories (kindergarten was coded as 1, through to Grade 6 coded as 7. Special Education was coded as 8 and "OTHER", such as Remedial Reading was coded as 9. This variable was

called "GRADE".

Years of teaching experience was simply given the actual numerical value as provided by each respondent. This variable was called "XPER".

Degree level was recorded as follows: 1--no degree; 2--B.A.; 3--B.A. (Ed.); 4--B.Ed., and 5--M.Ed. This variable was called "DEGREE".

Teaching Certificate was recorded with the numerical value corresponding to the Certificate number. Thus 1 = Grade 1 certificate; 2 = Grade 2 certificate, through to 7 = certificate seven. This variable was called "CERT".

Number of Reading Courses was recorded follows: 1 = 0 or no reading courses; 2 = 1 reading course; through to 6 = five reading courses. A value of 7 indicates greater than five reading courses. This variable was called "COURSES".

Each of the respondents was coded as 1--urban or 2--non-urban. This variable was called "URBAN".

Teacher knowledge of Reading (coded T.K.R.) was simply recorded as the score determined by the Inventory of Teacher Knowledge of Reading.

These data were punched on I.B.M. cards, and the analyses discussed below and in Chapter IV were carried out by computer using the "Statistical Package for the Social Studies" (Nie, et. al., 1975), at Memorial

University of Newfoundland.

### Data Analysis

The following types of analyses will be reported: descriptive analysis, Pearson Product-Moment Correlations, F-test of significance for correlations obtained, and Multiple Regression.

### Descriptive Analysis

A breakdown of the absolute frequencies related to each independent variable is provided (see Tables 1-6). As well, the mean, range, and standard deviation for each of the seven independent variables and the dependent variable (Table 7) are included.

### Correlation Coefficients

Pearson Product-Moment Correlations were determined between each of the seven independent variables as well as between the independent variables and T.K.R. (Teacher Knowledge of Reading). See table 8.

### F-test of Significance for Correlations

The F-test of significance was carried out on each of the above correlations to determine if they were statistically significant and also the level at which these correlations were significant.



### Multiple Regression

There would still remain many unanswered questions after F-tests were performed. Therefore, analysis based on Multiple Regression appeared called for. This type of analysis would "tease out" the relations among factors. Multiple Regression was used to also determine the order of importance of each of the variables under study. Predictors were ranked in the order in which they contributed to the variance (see Table 10). Predictors were deleted once they ceased to contribute significantly to the variance. The probability level for deleting a variable was .05.

### CONCLUSION

This chapter has presented a description of the design and procedures of the study. It has delineated the population and the method of data collection, and has briefly outlined the data sought by the study. The chapter has also described the origin, structure, and reliability and validity of the instrument used to collect the data. Finally, the chapter presented a brief statement concerning the types of statistical analyses of the data to be reported.



## CHAPTER IV

### FINDINGS AND DISCUSSIONS

The purpose of this chapter is to describe the various techniques applied to the data collected in this study with the object of testing the hypotheses enumerated in Chapter 3. First, a description of the respondents will be presented in terms of the independent variables whose effect on teacher knowledge of reading this study investigated. Second, answers will be provided to the research questions concerned with assessing the effect of the independent variables on teacher knowledge of reading. This will be done by describing the specific statistical procedures used to test the hypotheses. Tables and diagrams of results will be included and discussed. A summary of the chapter will be provided.

#### STATISTICAL PROPERTIES OF THE VARIABLES

As described briefly in Chapter III, the subjects in this study constituted 94 percent of the active primary and elementary reading teachers employed with the Roman Catholic Board, Humber-St. Barbe. A total of 134 research packages were distributed, of which 127 were returned for a total return of 95 percent. Three of the answer sheets were rejected, which left a total sample of 124 or 93 percent of the total population. All calculations involving

the total number of respondents were based on the figure 124, the number of returned answer sheets on which data were reported. The 93 percent usable returns was considered highly satisfactory.

Several independent variables were examined to determine their effect on teacher knowledge of reading. These independent variables were: (1) sex of the teacher; (2) number of years of teaching experience; (3) the grade level taught by the teacher; (4) the professional qualifications of the teacher as indicated by the degree level; (5) the professional qualifications of the teacher as indicated by teaching certificate; (6) the number of university accredited semester courses related to reading instruction possessed by the teacher; and (7) whether the teacher taught in an urban or non-urban community. Respondents were placed in the urban category if they taught in a school within the city of Corner Brook. Respondents were placed in the non-urban category if they taught in a school outside the city. The exception to this was the school in the community of Benoit's Cove. Because of its proximity to Corner Brook and the central board office (approximately ten miles), the respondents from this school were categorized as urban.

Each independent variable categorized the subjects differently. Tables 1-6 provide the following

information: name of variable, categories, number of respondents in each category, and total number of respondents.

With regard to the XPER variable (years of teaching experience), the information was not collapsed. Thus, actual years of experience were recorded. The mean years of experience of the population of this study was 12.9 years.

The mean, range, and standard deviation were computed for each of the seven independent variables and the dependent variable. This was done primarily to give the reader an overall view of the performance of the subjects on the Inventory (see Table 7).

An examination of the data as presented in Table 7 reveals an important feature: the independent variable closely approximates a normal distribution. The kurtosis (whether the curve is peaked or flat) is, for the most part, normal. Low negative values indicate a platykurtic (flatter than normal distribution) and high positive values indicate a leptokurtic (higher or more peaked than normal) distribution. The skewness, as well, appears normal and there appears to be neither a skew to the left or right (Nie, et. al., 1975, page 62).

The exceptions to these latter observations are the variables "Sex" and "Urban". This is understandable, however, when we consider that out of the total population of 124 subjects, 104 were females while there were only

Table 1

Description of Subjects According to the Variable  
SEX (Sex of Teachers)

<u>Category</u>	<u>Label</u>	<u>Number in Each</u>
1	Female	104
2	Male	20
	Total	124



Table 2

Description of Subjects According to the Variable  
GRADE (Grade Level Taught)

<u>Category</u>	<u>Label</u>	<u>Number in Each</u>
1	Kindergarten	11
2	Grade 1	16
3	Grade 2	14
4	Grade 3	20
5	Grade 4	15
6	Grade 5	16
7	Grade 6	17
8	Special Education	14
9	Remedial	1
	Total	124



Table 3

Description of Subjects According to the Variable  
DEGREE (Degree Level of Teacher)

<u>Category</u>	<u>Label</u>	<u>Number in Each</u>
1	No Degree	45
2	B.A.	4
3	B.A. (Ed.)	57
4	B.Ed.	15
5	M.Ed.	3
	Total	124

Table 4

Description of Subjects According to the Variable  
CERT (Teaching Certificate)

<u>Category</u>	<u>Label</u>	<u>Number in Each</u>
1	Certificate I	1
2	Certificate II	1
3	Certificate III	10
4	Certificate IV	46
5	Certificate V	44
6	Certificate VI	21
7	Certificate VII	1
	Total	124

Table 5

Description of Subjects According to the Variable  
COURSES (Number of University Reading Courses Completed)

<u>Category</u>	<u>Label</u>	<u>Number in Each</u>
1	No Courses	16
2	1 Course	14
3	2 Courses	38
4	3 Courses	24
5	4 Courses	21
6	5 Courses	4
7	more than five courses	7
	Total	124

Table 6

Description of Subjects According to the Variable  
URBAN (Urban Versus Non-urban)

<u>Category</u>	<u>Label</u>	<u>Number in Each</u>
1	Urban	86
2	Non-urban	38
	Total	124

Table 7

## Descriptive Statistics for Variables in the T.K.R. Model

Variable	Mean	Variance	Range	St'd Error	Kurtosis	St'd Error	Skewness
SEX	1.161	0.136	1.000	0.033	1.500	0.369	1.864
XPER	12.863	39.794	31.000	0.566	0.413	6.308	0.574
GRADE	4.645	4.930	8.000	0.199	-1.128	2.220	-0.017
DEGREE	2.411	1.366	4.000	0.105	-1.193	1.169	-0.015
CERT	4.597	0.942	6.000	0.087	0.772	0.970	-0.359
COURSES	3.484	2.479	6.000	0.141	-0.267	1.575	0.316
URBAN	1.306	0.214	1.000	0.042	-1.299	0.463	0.850
T.K.R.	55.742	105.256	52.000	0.923	-0.097	10.273	-0.073



20 males (see Table 1). We would, therefore, expect skewness and kurtosis because of this. "Urban", also, doesn't conform to the normal distribution. Again, however, there were 86 urban respondents compared to 38 non-urban respondents. See Table 6.

#### Product-Moment Correlation Coefficients

Table 8 presents the product-moment correlations plus means and standard deviations for all the independent variables and the dependent variable (TKR). An analysis of the relationship between the various independent variables would involve a total of 21 separate treatments. Since the main purpose of this study is to examine the relationships between the independent variable and teacher knowledge of reading, these relationships will not be discussed in detail. A number of the more pertinent ones will be dealt with briefly.

The correlation matrix reveals some interesting relationships. We find that "degree" is significantly correlated with 4 out of 6 variables (sex, experience, degree, grade, and certificate), while "certificate" is significantly correlated with 5 out of 6 variables (sex, experience, grade and urban). The correlation between degree and certificate is very strong (significant at the .001 level). This point will be discussed again, in the section on multiple regression.

Table 8

Correlation Matrix of T.K.R. Variables<sup>a</sup> N=124

	SEX	XPER	GRADE	DEGREE	CERT	COURSES	URBAN	T.K.R.	MEAN	ST'D DEV.
SEX		0.093	0.000	0.004	0.000	0.035	0.163	0.311	1.161	0.369
XPER	-0.120		0.399	0.004	0.009	0.111	0.090	0.027	12.863	6.308
GRADE	0.358	-0.023		0.006	0.002	0.186	0.158	0.330	4.645	2.220
DEGREE	0.241	-0.239	0.223		0.000	0.108	0.221	0.019	2.411	1.169
CERT	0.387	-0.212	0.254	0.728		0.472	0.009	0.005	4.597	0.970
COURSES	-0.163	-0.110	-0.081	0.112	0.006		0.181	0.045	3.484	1.575
URBAN	0.089	-0.116	0.091	-0.070	-1.211	-0.082		0.001	1.306	0.463
T.K.R.	-0.045	0.174	0.040	0.186	0.233	0.153	-0.289		55.742	10.273

<sup>a</sup>Correlation Coefficients below the Diagonal.  
Significant level of the relationship above the Diagonal.

It is also interesting to note that "course" is significantly correlated only with "sex" and "TKR". Even then the correlation is a weak one--below the .05 level.

From Table 8 we find that the following variables are statistically significant in relation to teacher knowledge of reading: experience, degree, certificate, courses, and urban. "Urban" has a strong correlation here. Again, this point will be discussed later in the chapter. "Sex" and "grade" are not statistically significant--a point which is supported by the multiple regression analysis.

#### Multivariate Relationships

It should be noted that when correlation coefficients are employed to establish patterns of relationship between variables, the degree of association is a somewhat crude measure. In educational research, it is generally accepted that the independent variables interact with one another, which in turn correlate with the dependent variable. Therefore it seldom happens that a direct one-to-one relationship exists between an independent variable and a dependent variable. On the contrary, the relationship is often influenced by extraneous variables. The single correlation coefficient value, therefore, can be misleading and most probably denotes the relationship in question, plus other factors as well.

For this reason a second, but related, method of analysis was conducted in an attempt to isolate the effect that each of the remaining 5 variables (XPER, DEGREE, CERT, COURSES, and URBAN) had on the dependent variables.

This procedure requires an estimate of the effect of one independent variable on the criterion variable while taking into account or controlling for the effect of the other independent variables.

Multiple regression, the second method of analysis used in this study, then, is a statistical technique through which it is possible to analyze more precisely the relationship between a dependent or criterion variable and a set of independent or predictor variables. In this study multiple regression was used as a descriptive tool by which the linear dependence of teacher knowledge of reading on experience, degree, certificate, courses, and urban was determined. This was achieved by controlling for other, possibly confounding factors in order to evaluate the relative contribution of each of the independent variables.

From this analysis it was possible to obtain statistics which indicated how much of the variance was accounted for by the influence of each of the independent variables.



Table 9 indicates which of the independent variables are statistically significant. In this table all seven independent variables are included and again we see that "sex" and "grade" are not statistically significant, while experience, certificate, courses, and urban are statistically significant. We can see that approximately 18 percent of the variance is being accounted for by these variables.

Table 10 presents an interpretation of R-squares. Of the variance being explained (18 percent approximately) experience accounts for 2.8 percent (a proportion of 15.3), degree accounts for 5.7 percent (a proportion of 31.7), certificate represents 3.6 percent (a proportion of 20.0), courses represents 2.2 percent (a proportion of 12.2), and urban accounts for 3.4 percent (a proportion of 18.8).

From this it appears that "degree" accounts for the highest percentage of variance, "certificate" is next, and so on. The rank order is presented in Table 10. "Sex" and "grade" are not included because they were found to be not statistically significant.

It should be noted that "degree" has been indicated in this table as being N.S. (not statistically significant). This seeming incongruity can be explained because there is a high standard error for "degree". Also, "degree" and "certificate" are really measuring basically the same



Table 9

Beta Coefficients and Significance Level of the Relationships in the T.K.R. Model

Independent Variables	Dependent Variables T.K.R.			F Ratio	P
	Raw Beta	St'd Beta	St'd Error		
SEX	-2.517	-0.090	2.722	0.855	N.S.
XPER	0.354	0.217	0.144	6.046	.01
GRADE	0.173	0.037	0.424	0.167	N.S.
DEGREE	0.575	0.065	1.110	0.269	N.S.
CERTIFICATE	2.272	0.215	1.438	2.496	.05
COURSES	0.912	0.140	0.568	2.577	.05
URBAN	-4.392	-0.198	1.999	4.827	.01
R <sup>2</sup>	0.184	(Approximately 18% of Variance)			

$$F \text{ ratio} = \frac{(\text{Raw Beta})^2}{(\text{St'd Error})}$$

Table 10

Beta Coefficients and Percentage of Variance  
Accounted for by Each of the Predictor Variables

Rank Order	Proportion of Explained Variance	Percent of Variance	Variable	F Ratio
4	15.5	2.8	XPER	6.04
1	31.7	5.7	DEGREE	NS
2	20.0	3.6	CERT	2.496
5	12.2	2.2	COURSES	2.577
3	18.8	3.4	URBAN	4.827
	100% total	18% total		

phenomena. "Certificate", however, is the stronger of the two; there is not much difference between, for example, a B.A. and a B.A. (Ed.), whereas certificate 3, 4, etc., delineates the difference precisely. "Certificate" has more categories in the variable (7 points), whereas "degree" has 5 points. In order to interpret "certificate", we take into consideration degree and other factors.

In the correlation matrix (Table 8), the explanatory force of "degree" is being felt. However, in Table 10, this explanatory force has been lost in the presence of "certificate".

Another way of graphically demonstrating this is by means of the model presented in Figure 1 and 2. Using this type of model, which is perhaps a better method, experience shows up as the strongest predictor. We do not see this in terms of an R-square explanation. In Figures 1 and 2 standardized beta coefficients are used for interpretive purposes. In Figure 1, for example, the beta of .171 is the effect of experience on TKR while taking the variable "sex" into account.

Figure 1 shows that when experience is considered in relation to sex, its impact on TKR is .171 which is significant at the .05 level. However, when all the other variables are controlled, experience emerges as the most powerful predictor--the value of 0.217 (see Table 9) is not only the greatest of the seven, but it is significant

SEX

T.K.R.

XPER

$R^2 = .03$

Figure 1

Relationship Between Experience and T.K.R. Controlling for Sex

at the .001 level. This indicates that there is only one chance in a thousand that the finding is spurious. This is clearly a very strong relationship (see Figure 2).

Figure 2, then, shows that "experience" has the single most important influence on teacher knowledge of reading. The second most important influence is "certificate", third is "urban", and fourth is "courses". (see Table 11).

Referring to Table 10 again, we see that these four variables account for 12.2 percent of variance; that is 70 percent of the explained variance.

#### SUMMARY OF FINDINGS IN RELATION TO HYPOTHESES

The purpose of this section is to discuss the findings of this study in terms of the extent to which such findings support or reject the hypotheses. Since the pattern of the findings of the correlation analysis is consistent with the findings of the regression analysis, this summary will discuss only the findings of the regression analysis. Another argument in favor of doing this is that multiple regression subsumes the correlation matrix in the calculation of the beta weights for the predictor variables.

The procedure for selection or rejection of hypotheses used here is consistent with the conventional format used in analysis of variance. However, since multiple regression is a more powerful measure than a straight analysis



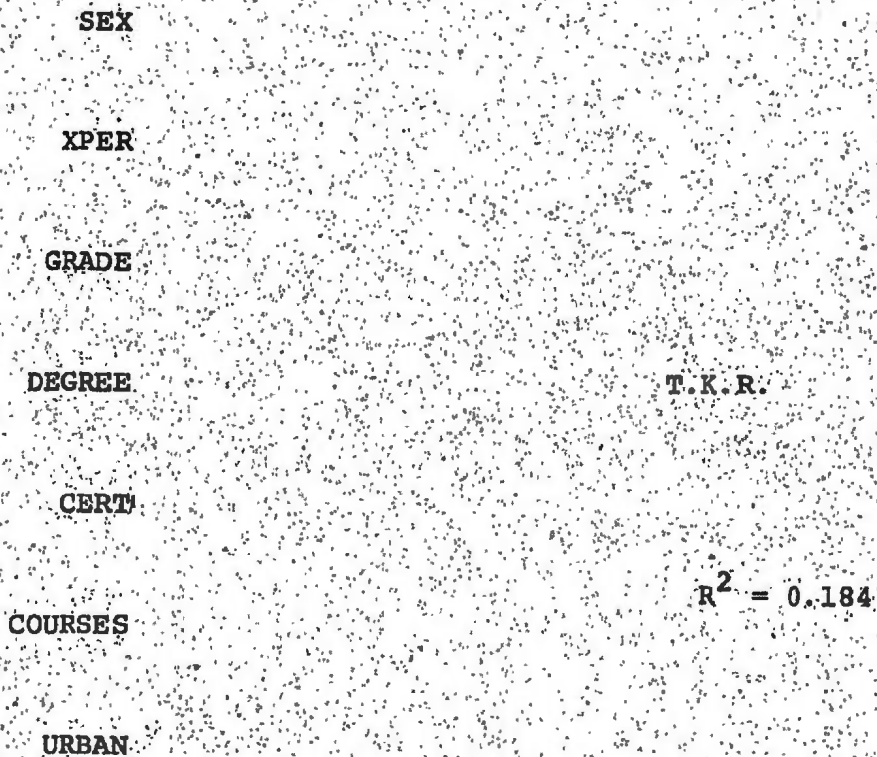


Figure 2

A Conceptual Model of the Factors Influencing T.K.R.

Table 11

Ranking Independent Variables

<u>Rank Order</u>	<u>Variable</u>	<u>Standard Beta</u>
1	XPER	.217
2	CERT	.215
3	URBAN	.198
4	COURSES	.140

of variance, the results of the multiple regression not only provide a significance level for the effect of each variable but also gives the percentage of variance explained by each independent variable (see Table 10 and Figure 2).

Hypothesis 1: There will be no relationship between sex and teacher knowledge of reading.

The standardized beta for the effect of sex on teacher knowledge of teaching was  $-0.090$  which is not statistically significant (see Figure 2). Therefore hypothesis 1 is accepted which indicates that after standardizing all the variables, then controlling for the effects of all other independent variables, the variable "sex" had no effect on teacher knowledge of reading.

Hypothesis 2: The greater a teacher's years of experience, the more knowledge of reading he will possess.

An examination of the standardized beta weights in Figure 2 shows that experience had a value of  $0.217$  which is statistically significant. The F-ratio (Table 10) of  $6.046$  is significant at the  $.001$  level for experience and the proportion of explained variance is  $15.5$ . This is strong support for the hypothesis and, therefore, hypothesis 2 is accepted.

Hypothesis 3: Grade taught will have no effect on teacher knowledge of reading.

The standardized beta for the effect of grade on teacher knowledge of reading was  $0.037$  which is not



statistically significant. Therefore hypothesis 3 was accepted which indicates that grade taught has no significant effect on a teacher's knowledge of reading.

Hypothesis 4: There will be a significant positive relationship between degree level and teacher knowledge of reading.

The standardized beta for the effect of "degree" on teacher knowledge of reading was 0.065 which is not statistically significant. An explanation of the probable cause of this was suggested earlier in this chapter. It should be noted that the zero-order relationship between "degree" and T.K.R. is statistically significant. However, in the presence of "certificate" it is not significant. Therefore the hypothesis was rejected.

Hypothesis 5: The higher the teaching certificate, the greater will be the teacher knowledge of reading.

The standardized beta for the effect of certificate on teacher knowledge of reading was 0.215, which is statistically significant. This indicates that teaching certificate significantly affects knowledge of reading. Therefore the hypothesis was accepted.

Hypothesis 6: The number of reading courses a teacher has completed will have an effect on knowledge of reading.

The standardized beta for the effect of courses on teacher knowledge of reading was 0.140. This is somewhat low, but is still of statistical significance; therefore the hypothesis was accepted.

Hypothesis 7: Teaching in an urban versus a non-urban area will affect teacher knowledge of reading.

The standardized beta for the effects of urban on teacher knowledge of reading was -0.198 which is statistically significant. This indicates that teaching in an urban or non-urban school does significantly affect knowledge of reading. Therefore the hypothesis was accepted.

#### SUMMARY

As previously stated, a significant relationship exists between teacher knowledge of reading and each of the following independent variables or predictors in this order of importance: (1) experience; (2) certificate; (3) urban; (4) courses (see Table 11).



## CHAPTER V

### SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

#### RESEARCH REVIEW

This study tested the hypothesized relationship between teacher knowledge of reading and each of the following variables: sex, experience, grade taught, degree level, teaching certificate, courses in reading, and whether the teacher teaches in an urban or non-urban community. Those variables found to be not significantly related were rejected. The order of the variables found to be significantly related to teacher knowledge of reading was then determined.

The sample in this study consisted of 124 practising teachers employed by a Newfoundland school board. This board is felt to be representative of the province because of the various kinds of communities which make up the population background. It must be noted, however, that this study was concerned with primary and elementary teachers working in schools under the jurisdiction of the Roman Catholic School Board, Humber-St. Barbe. Therefore, generalizations from the conclusions should be limited to populations of teachers judged to be similar.

The instrument employed in this study was the Inventory of Teacher Knowledge of Reading, developed by A. Sterl Artley and Veralee B. Hardin. Background

information pertinent to each of the seven variables was gathered by means of a teacher information sheet accompanying the Inventory.

Statistical analysis of the data included the calculation of descriptive statistics for each variable, the estimation of zero-order correlation coefficients, and the estimation of regression coefficients using an ordinary least squares approach. Significance tests were conducted for all correlations and least square estimates.

The conclusions of this study are drawn from the findings of Chapter IV and the theoretical and practical implications that arose from these findings. The conclusions are summarized as (1) theoretical implications, (2) practical implications, (3) recommendations for further research.

#### Theoretical Implications

Essentially this study attempted to answer seven fundamental questions: to what extent do the variables of sex, experience, grade taught, degree, teaching certificate, courses, and teaching in an urban versus a non-urban school, affect a teacher's knowledge of reading? In the findings, strong trends emerged which led this researcher to conclude as follows:

In the case of sex and grade taught, no significant relationships with knowledge of reading were found in any of the correlation analyses. The hypotheses involving these

two variables, which suggest that there will be no effect on teacher knowledge of reading, are well supported by these findings.

The correlation matrix indicates a statistically significant relationship between degree and teacher knowledge of reading. However, multiple regression analysis shows that this variable is not significant in the presence of certificate. Degree and certificate, as has been discussed earlier, are really measuring basically the same phenomena. Certificate is the stronger of the two because it delineates the different categories more precisely and because it has more categories in the variable. Thus, in the presence of certificate, the effect of degree is attenuated.

Experience emerged as the most significant factor in the model for explaining knowledge of reading. It is independent of, and operates over and beyond, all other variables. The hypothesis presented earlier in this study, that the higher the number of years of experience, the better the knowledge of reading, is well supported.

We can identify certain factors which help explain why the relationship is so strong, i.e., why experience is the most important determinant of teacher knowledge of reading over and above the other factors; (1) Inherent in experience are untold hours of preparing lessons, worksheets, activities, and so on congruent with guidelines and suggestions for teaching as found in handbooks for teachers

prepared by the Department of Education and other agencies.

(2) The experienced teacher has had many opportunities to attend workshops and conferences. (3) The upgrading of credentials develops as experience increases. (4) Experienced teachers have engaged in many discussions of teaching and related problems with colleagues.

Surely, then, these dimensions of experience add up to a greater awareness of what reading is all about. Indeed, these four points seem to be, in essence, what experience really means.

The correlation matrix and the multiple regression analysis indicate that certificate is a strong determinant of knowledge of reading. The hypothesis presented earlier, that the higher the teaching certificate, the more knowledge of reading possessed by a teacher, was supported.

The findings of this study indicate that teachers teaching in urban schools are likely to possess more knowledge of reading than teachers in non-urban schools. This is perhaps a surprising trend, at least at first glance. When we examine this finding more closely, however, it appears to be well founded. Teachers in urban areas usually work in larger schools where we are more likely to find two or more classes, and thus two or more teachers, at the same grade level. Even in situations in urban schools where there is only one class at a particular grade level, the proximity of colleagues involved in teaching the



same grade is an advantage. In urban areas, then, teachers have the opportunity to easily exchange ideas with colleagues and thereby learn from each other. Teachers in urban areas have more inservice opportunities and are able to be in more direct contact with central board resources and personnel.

It is also possible that teachers in larger urban schools are able to receive more help from their principals. Principals in larger schools teach fewer classes than their colleagues in smaller, non-urban schools. Although administrative, and other, responsibilities increase as the size of the school increases, urban principals have considerably more time to spend with new teachers, or any staff member, in need of help.

The majority of teachers in non-urban communities in this study are teaching in various degrees of isolation. This compounds the problem and severely limits exchanges of the type mentioned above. Of course teachers in non-urban areas exchange ideas--however, it is the sheer number and variety of possible exchanges in urban schools which seem to make the difference.

This relationship between (1) teaching in urban versus non-urban schools and (2) knowledge of reading has been strongly indicated, allowing for the inequality in numbers of teachers in each category. Thus, there is an effect, taking into account the numbers. There is strong support then, for the hypothesis that urban subjects perform better than non-urban subjects.



The hypothesis presented earlier, which suggested that teachers who have more reading courses to their credit are more knowledgeable in the area of reading is supported by the findings of this study. It would seem that this is explained by the fact that teachers who have more reading courses are more likely to have kept abreast of current developments in reading through these courses, and have more knowledge of theory and practice. It is through reading courses that a teacher should develop a solid background of knowledge of the reading process.

Accounting for knowledge of reading on the part of teachers is undoubtedly a complex issue. This complexity is further compounded, perhaps, by the fact that little research has been conducted in this area. Nevertheless, it must be acknowledged that with respect to knowledge of reading on the part of the subjects in this study, four of the preceding variables (experience, certificate, courses, and urban/non-urban) played a significant role.

#### Practical Implications

The results of this investigation clearly indicate that a sound knowledge of reading is closely related to years of experience, teaching certificate, teaching in an urban versus a non-urban school, and number of courses in reading.

The mean years of experience of the population of this study was found to be 12.9 years. Of the 124 teachers in the population, a total of 90, or 73 percent, have ten or more years of experience. There are 21 teachers (17 percent of the population) with from 5-9 years of experience. Teachers with from 1-4 years of experience number 13 (10 percent of the population). This suggests a very experienced teaching staff. Since the years of experience is not a factor which can easily be manipulated, we might be well advised to look at the other factors judged to be of consequence.

An examination of Table 5 reveals that sixteen teachers (13 percent of the population) indicated they had not completed any reading courses, while another fourteen (11 percent) have completed one reading course. Thirty-eight teachers (30 percent) indicated two reading courses completed. This means that out of the total population of reading teachers in this study, sixty-eight (55 percent) have completed three courses or less in reading. Forty-five teachers (36 percent of the population) have completed three to four courses, while only eleven teachers (9 percent) have completed five or more courses in reading.

While it is difficult to establish the optimum number of courses in reading which each teacher should have, and while it is not the intention of the researcher to even attempt to suggest arbitrary figures, we might

reasonably expect a rather more extensive background than three reading courses for a teacher engaged in reading instruction.

An examination of degree level and certificate reveal some interesting information, also (see Tables 3 and 4). It must be remembered, of course, that degree, as a variable, was not found to be statistically significant. On the other hand, we must remember that it plays an important role in the training of teachers. It has been pointed out that the explanatory force of degree in relation to teacher knowledge of reading is subsumed or tends to be attenuated in the presence of certificate. It should be understood, of course, that this occurs because the effects of degree are absorbed by certificate (the basic requirement for the majority of teaching certificates held by the population of this study is degree).

Under "degree" we find that 64 percent of the teachers have at least one degree. Of that total, 75 teachers indicate a degree directly associated with education (as opposed to a "straight" or liberal arts degree--B.A.).

It would, perhaps, be safe to assume that the majority of the teachers involved in this study have received their training, at least their teacher training, at Memorial University of Newfoundland. The Memorial University calendar for 1983-1984, in its "Degree Regulations" (page 266-267) for the degree B.A. (Ed.), for example, lists as the reading

requirement on the primary programme, one course in reading and one course in children's literature. On the elementary programme we find one reading course and one language arts course as the only requirement in the area of reading. There are "three additional courses" or electives, but there is no assurance that these will be chosen from among the reading course offerings.

Reading affects all areas of the curriculum; indeed, it could be said that reading is the foundation upon which the whole curriculum rests. We are all too familiar with the oft-repeated refrain which goes something like this: "Every teacher is a teacher of reading." It happens, also, that in this study, every teacher is a teacher of reading. The same could be said in most cases involving primary and elementary teachers across Newfoundland. It is difficult to understand, therefore, how out of a total course requirement of 44 courses, only two are mandatory in the reading area.

It is still possible to obtain a fourth grade teaching certificate in Newfoundland without the requirement of first obtaining an undergraduate degree. In other words, a teacher can obtain this certificate by completing a requisite number of courses. The Teacher Certification Regulations, 1979 of the Government of Newfoundland and Labrador state, in part:

"The registrar may issue a Certificate IV to a candidate who:

(a) has successfully completed forty courses for an approved four-year teacher education program including two courses in English and eight approved courses in education" (Page 4, #8).

The regulations continue and spell out other conditions which list degrees or degrees and combinations of courses, but this specific regulation is quoted here because it permits the situation to develop described at the beginning of this paragraph. A further reading of the regulations seems to indicate that it is possible to achieve the top teaching certificate in Newfoundland (Certificate VII) with only two courses in or related to reading (the two courses cited earlier).

This present setup of teacher certification regulations seems to promote the practice of following a disjointed program of courses in which teachers and prospective teachers sample "this" and "that" courses from the tray of course offerings. This is not meant as a criticism of teachers. It is a comment on the system which seems to encourage the mere accumulation of courses, resulting in higher teacher certificate.

The findings of this study seem to suggest that the most important factor influencing a teacher's knowledge of reading is experience. This is, perhaps, as it should be. We would expect that as a teacher becomes more familiar



with reading through teaching and gains experience using different programmes, knowledge would also grow. However, knowledge should not be left solely to experience.

Part of the solution to some of the problems referred to here may be at the university level. The university should accept more responsibility in this area (1) by increasing the number of reading courses required for a degree in education to a minimum of perhaps 5 courses (this number would seem to represent a rather modest proposal considering the importance of such), with the emphasis on providing prospective teachers with a grounding in programmes, approaches, innovations, and strategies; and (2) by becoming more involved in inservice education.

At present there is really no reading requirement for teacher certification in Newfoundland. Perhaps this can, in part, explain the large percentage of practising teachers who have had no exposure to reading courses. With the far-reaching importance of reading in the education of young people, and its influence on the whole curriculum, more attention should be given to the problem at the institutional level.

The results of this study point to a great disparity in knowledge of reading by teachers in an urban setting versus teachers in a non-urban setting. This is not to be construed as indicating that non-urban teachers are inferior in some way. What it does suggest, however, is that

perhaps urban teachers benefit from the contact which comes from teaching in larger schools and/or larger centres.

In urban settings there are simply more colleagues with whom to rub shoulders, exchange ideas, and discuss mutual problems and solutions. In larger urban areas, there are more teachers available with whom to pool resources and compare notes; thus, there is more likely to be an atmosphere of "friendly rivalry" and co-operation. Not that this is unheard of or impossible in non-urban areas--it simply seems reasonable to assume that sheer numbers in urban areas make the whole process more effective and beneficial. Again, it must be pointed out that this phenomenon is not explained by higher certification, etc.--these variables have been controlled for.

Whatever the reasons, the major concern is that it appears that children in urban areas have teachers who are better prepared, from the standpoint of knowledge, to teach reading. This is based on the assumption, of course, that the scores on the Inventory are reliable. It follows from this, that children in urban areas seem to be favoured over children in non-urban areas in reading instruction.

Perhaps there is no final solution, but there are a number of steps which might prove effective. Measures are always being undertaken at the board level to facilitate an exchange between teachers. Experienced teachers are invited to conduct in-service with non-urban

teachers as an avenue of idea-sharing.

The difficulties would perhaps be enormous in many instances, but teachers from non-urban areas could be brought into urban centres several times a year for both formal and informal exchanging of ideas.

The university has a part to play here, also. Possibly a programme could be developed with the non-urban teacher in mind which would be designed in such a way as to make up for the disadvantages already mentioned.

However it is to be done, teachers in non-urban areas must be given every opportunity to be brought into contact with new developments and new techniques, and even "old" practical approaches which other teachers have found effective. This is not meant to be at a "textbook" or course level, but in a more practical "exchange" manner. In this way, non-urban teachers would have an approximation of the advantages which seem to favor urban teachers.

At the second level steps could be taken to add to the knowledge of reading of the teaching staff. By means of "short days" or other vehicles, teachers could gather (at grade level or whole staff) to discuss and exchange ideas on a problem of ongoing concern in the area of reading instruction. This could be carried on at the board level by grade, also.

The suggestions proposed here are perhaps simplistic. Nevertheless, the fact remains that a problem exists. Steps

must be taken to alleviate the problem.

RECOMMENDATIONS FOR FURTHER RESEARCH

The following recommendations for further research are attempts to overcome the limitations of the present study.

(1) This study dealt only with teachers from one school board. While it has been argued that the population seems to be representative, it would be enlightening to see if similar results would be achieved in another areas of the province. A similar study would perhaps make it more reliable to generalize the results.

(2) This study was concerned with one part of the continuum--teacher knowledge of reading. Further research could be conducted to ascertain whether teacher knowledge of reading is associated with student achievement.

(3) Research could also be conducted to determine which factors account for satisfactory use of teacher knowledge of reading.

(4) This study was limited to seven variables which seemed to have possible effects on teacher knowledge of reading. Other researchers could attempt to further delineate the factors which have not been accounted for here.

## REFERENCES

Aaron, J.E. "What Teachers and Prospective Teachers Know About Phonic Generalizations." Journal of Educational Research, 53(1960), 323-330.

Adams, M.L. "Teacher's Instructional Needs in Teaching Reading." Reading Teacher, 17(1964), 260-264.

Amidon, E.J. and N.A. Flanders. The Role of the Teacher in the Classroom. Minneapolis: Paul Amidon and Associates, 1963.

Amidon, E.J. and M. Giammatteo. "The Verbal Behavior of Superior Teacher." Elementary School Journal, 65(1965), 283-285.

Armbruster, E.E. "The More We Spend, The Less Children Learn." The New York Times Magazine, (August 28, 1977), 9-11, 53-56, 60.

Artley, A. Sterl. "Development Reading in the 60's." Educational Digest. 34:8(April 1969), 38-41.

---

"Good Teachers of Reading: Who Are They?" Reading Teacher. 29:1 (October 1975), 26-31.

---

"Identifying Good Teachers of Reading. Successful Teachers of Reading, Who Are They?" Paper presented to the Annual Convention of the International Reading Association (18th, Denver, Colorado, May 1-4, 1973).

---

"Individual Differences and Reading Instruction." Elementary School Journal, 82:2 (November 1981), 143-151.

---

"Reading Instruction and Cognitive Development." Elementary School Journal. 72:4 (January 1972), 203-211.

---

"Reading Teachers I have Seen." Paper presented at the Annual Meeting of the International Reading Association World Congress on Reading. Hamburg, West Germany (August 1978).

---

"The Teaching Variable in the Teaching of Reading." Reading Teacher, 23 (1969) 239-248.



- Artley, A. Sterl "Words, Words, Words." Language Arts, 52:8 (November/December 1975), 1067-1072.
- Artley A. Sterl and Veralee B. Hardin Inventory of Teacher Knowledge of Reading (Revised Edition). Columbia: Lucas Brothers Publishers. 1975.
- Bartobomie, P.J. "Teachers' Objectives and Questions in Primary Reading." Reading Teacher 23(1969), 27-33.
- Bawden, Robert and Gerald B. Duffy "Teacher Conceptions of Reading and the Impact on Instructional Behaviour." Paper Presented at the International Reading Association Convention. Atlanta, Georgia, April 1979.
- Bell, T.H. Effective Teaching: How to Recognize and Reward Competence. New York: Exposition Press. 1962.
- Bennett, Neville Teaching Styles and Pupil Progress. Cambridge, Massachusetts: Harvard University Press. 1976.
- Biddle, B.J. and W.J. Ellena (Eds.) Contemporary Research on Teacher Effectiveness. New York: Holt, Rinehart and Winston. 1964.
- Bond, G.L. and R. Dykstra "Interpreting the First Grade Reading Studies" in R.G. Stauffer (Ed.). The First Grade Reading Studies: Findings of Individual Investigations. Newark, Delaware: International Reading Association, 1967.
- Bridge, Gary R., Charles M. Judd and Peter R. Moock The Determinants of Educational Outcomes. Cambridge, Massachusetts: Ballinger Publishing Company, 1979.
- Broman, B.L. "Factors Associated With Teacher Knowledge of Reading Skills." Doctoral Dissertation, University of Tennessee. 1962.
- Brophy, J. and C. Evertson "The Texas Teacher Effectiveness Project: Summary Report." Research Report, The Research and Development Center for Teacher Education, The University of Texas at Austin. 1974.
- Brophy, J. and Thomas L. Good Teacher-Student Relationships: Causes and Consequences. New York: Rinehart and Winston. 1974.

- Buik, Sandra and Duffy, Gerald Do Teacher Conceptions of Reading Influence Instructional Practice? Michigan State University. 1979.
- Burnett, R.W. "The Diagnostic Proficiency of Teachers of Reading." Reading Teacher, 16 (1983), 229-239.
- Chall, J. Learning to Read: The Great Debate. New York: McGraw-Hill, 1967.
- Chall, J. and S. Feldman "First Grade Reading: An Analysis of the Interaction of Professed Methods, Teacher Implementation, and Child Background." Reading Teacher, 19 (1966), 569-575.
- Clary, Linda Nixon "A Self-Appraisal Inventory for Reading Teacher." Reading Horizons 20:4 (Summer 1980), 276-280.
- Clymer, T. "What is Reading?: Some Current Concepts" in H.A. Robinson (ed.). Innovation and Change in Reading Instruction. Sixty-Seventh Yearbook of the National Society for the Study of Education. Chicago: University of Chicago Press. 1968.
- Coleman, J. "Equal Rights or Equal Students.?" The Public Interest (Summer 1966), p. 74.
- Coleman, J. et. al. Equality of Educational Opportunity. Washington, D.C. Superintendent of Documents, U.S. Government Printing Office. 1966.
- Coombs, A.W.; R.A. Blums; A.J. Newman and H.L. Wass' The Professional Education of Teachers: A Humanistic Approach. Boston: Allyn and Bacon, Inc. 1974.
- Dechant, Emerald V. Improving the Teaching of Reading. Englewood Cliffs, New Jersey: Prentice-Hall. 1964.
- Dembo, M. and L. Jennings "Who is the "Experienced" Teacher Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans. 1973.
- Dunkin, M. and B. Biddle The Study of Teaching. New York: Holt, Rinehart and Winston. 1970.
- Eissey, E.M. "Selected Variables in Teacher Preparation and Subsequent Evaluation of Teaching Performance." Unpublished Doctoral Dissertation, Florida State University. 1967.

- Ellsworth, Randy and John W. Miller "A Validation Study of the Teacher Knowledge of Reading." Educational and Psychological Measurement. 40:2 (Summer 1980), 537-542.
- Emans, Robert and Sharon E. "Teaching Behaviours in Reading Instruction." The Reading Teacher 27:2 (November 1973), 142-148.
- Farinella, J.T. "An Appraisal of Teacher Knowledge of Phonetic Analysis and Structural Analysis." (Doctoral Dissertation, University of Connecticut) Dissertation Abstracts. 21:(1960), 1805.
- Flanders, N.A. "Teacher Effectiveness." In R.L. Ebel (Ed.) Encyclopedia of Educational Research (4th edition) New York: MacMillan. 1969.
- Teacher Influence: Pupil Attitudes and Achievement, Final Report, 1960, University of Minnesota; Project 137. Washington, D.C.: U.S. Office of Health, Education and Welfare, Cooperative Research Program, Office of Education. 1960.
- Fleming, J.T. "Teachers' Understanding of Phonic Generalizations." Reading Teacher. 25 (1972), 400-404.
- Good, T.L., D. Biddle and J.E. Brophy Teachers Make a Difference. New York: Holt, Rinehart and Winston. 1975.
- Goodman, Kenneth S. "Acquiring Literacy is Natural: Who Skilled Cock Robin?" Theory Into Practice. 16 (December 1977), 309-314.
- Government of Newfoundland and Labrador Teacher Certification Regulations. 1979.
- Green, R.; L. Hoffman; R. Morse and R. Morgan The Educational Status of Children During the First Year of Schooling Following Four Years of Little or No Schooling. East Lansing. Michigan: College of Education, Michigan State University. 1966.
- Griffin, Margaret M. and Paul I. Brousseau Using Evaluation to Identify "Good" Teachers of Reading. A paper presented at the Annual Meeting of the International Reading Association - 19th. New Orleans, Louisiana, May 1-4, 1974.

- Groff, Patrick "Reviews: A.S. Artley and V.B. Hardin Inventory of Teacher Knowledge of Reading." Reading World. 12:4(May 1973), 296-298.
- Guszak, Frank J. "Relations Between Teacher Practice and Knowledge of Reading Theory in Selected Grade School Classes." Wisconsin University School of Education. 1966.
- Harris, Albert J. "The Effective Teacher of Reading." Reading Teacher 23:3(December 1970), 195-204.
- Harris, A.J. and C. Morrison "The Craft Project: A Final Report." The Reading Teacher. 22(January 1969), 335-340.
- Harris, T.L. "Reading" in R.L. Ebel (Ed.) Encyclopedia of Educational Research (4th Edition). New York: MacMillan, 1969.
- Harste, Jerome C. "Understanding the Hypotheses: It's the Teacher that Makes the Difference." Reading Horizons. 18(Winter, 1978), 89-98.
- Hodgson, Geodfry "Do Schools Make a Difference?" Atlantic Monthly. (March, 1973), 35-46.
- Ileka, J. "Phonic Skills of Teacher Education: Students and Teachers." Multidisciplinary Aspects of College-Adult Reading. G.B. Schick and N.M. May (Eds.). Seventeenth Yearbook of the National Reading Conference. Milwaukee, Wisconsin: National Reading Conference. 1968.
- Jackson, P.W. The Way Teaching Is. Washington: Association for Supervision and Curriculum Development. 1966.
- Jencks, C. Inequality: A Reassessment of the Effect of Family and Schooling in America. New York: Basic Books. 1972.
- Jones, M.L. "Analysis of Certain Aspects of Teaching Ability." Journal of Experimental Education. 25(1956), 153-180.
- Kerlinger, Fred N. and Elazar J. Pedhazur Multiple Regression in Behavioural Research. New York: Holt, Rinehart and Winston Inc. 1973.
- Kingston, Albert J.; G.F. Brosier and Y. Hsu "The Inventory of Teacher Knowledge of Reading: A Validation." Reading Teacher. 29:2(November 1975), 122-136.

- Koenke, Karl "Ascertaining Knowledge of Reading With the Artley-Hardin Inventory." Paper presented at the Annual Meeting of the National Reading Conference. St. Petersburg, Florida. 1975.
- Kounin, J. Discipline and Group Management in Classrooms. New York: Holt, Rinehart and Winston. 1970.
- Kuipers, J.L. "The Teacher: Key to Reading Success." In J.S. Nemeth (Ed.). Abstracts: Nineteenth Annual Convention. Newark, Delaware: International Reading Association. 1965.
- Lundrigan, U. Frame Factors and the Teaching Process: A Contribution to Curriculum Theory and Theory on Teaching. Stockholm: Almqvist and Wiksell. 1972.
- MacKenzie, Moira "The Beginnings of Literacy." Theory Into Practice. 16(December 1977), 315-323.
- McNeil, J.D. and W.J. Popham "The Assessment of Teacher Competition." in R.M.W. Travers (Ed.) Second Handbook of Research on Teaching. Chicago: Rand McNally. 1973.
- Memorial University of Newfoundland Calendar. 1983-1984.
- Meux, M. and B.O. Smith "Logical Dimensions of Teaching Behaviour" in B.J. Biddle and W.J. Elena (Eds.) Contemporary Research on Teacher Effectiveness. New York: Holt, Rinehart and Winston. 1964.
- Miller, C. and Miller, D. "The Importance of Certain Personal Qualities and Professional Competencies in Successful Classroom Teaching." Journal of Teacher Education. 32:1(1971), 37-39.
- Moynihan, D.P. "Equalizing Education: In Whose Benefit?" The Public Interest (Fall, 1972), 69-89.
- Myrdal, Gunnar Objectivity in Social Research. New York: Pantheon Books. 1969.
- Nie, H.H.; C.H. Hull; J.C. Jenkins; K. Steinbrenner and D.H. Bent Statistical Package for the Social Sciences (2nd edition). New York: McGraw-Hill. 1975.
- Office of Education (D.H.E.W.), Washington, D.C. Right to Read Program, April 1975. "RX Prescription for Teacher Preparation in Reading Instruction."



- Ornstein, A.C. "Systematizing Teacher Behavior Research." Research Notes (1971), 551-555.
- Popham, W. "Teaching Skills Under Scrutiny." Phi Delta Kappan, 52(1971), 599-602.
- Ramsey, Z.W. "An Evaluation of Three Methods of Teaching Sixth-Grade Reading" in J.A. Figurel (Ed.) Challenge and Experiment in Reading. International Reading Association Conference Proceedings 7(1962), 151-159.
- Rand Corporation How Effective is Schooling? Santa Monica, California: The Rand Corporation. 1972.
- Rorie, I. Laverne "Analysis and Validation of the Inventory of Teacher Knowledge of Reading." Ph.D. Dissertation, University of Missouri, Columbia. 1975.
- Rosenshine, B. and Furst, N. "The Use of Direct Observation to Study Teaching" in R. Travers (Ed.) Second Handbook of Research on Teaching. Chicago: Rand McNally. 1973.
- Ryans, D.G. "Prediction of Teacher Effectiveness." In C.W. Harris (Ed.) Encyclopedia of Educational Research (3rd edition). New York: MacMillan. 1960.
- Schnepf, Virginia and Odessa Meyer. Improving Your Reading Program. New York: The MacMillan Company. 1981.
- Schubert, D.C. "Teachers and Word-Analysis Skills." Journal of Developmental Reading. 2(1959), 62-64.
- Smith, Frank Understanding Reading. New York: Holt, Rinehart and Winston. 1978.
- Spache, George and Evelyn B. Spache. Reading in the Elementary School. Boston: Allyn and Bacon, Inc. 1970.
- Stencombe, Arthur L. "The Social Determinants of Success." Science (November 1972).
- Stephens, J.M. The Process of Schooling. New York: Holt, Rinehart and Winston, Inc. 1967.
- Tanner, Daniel and Celso, Nicholas "Teacher Knowledgeability and Public Achievement." Paper presented at the Annual Meeting of the American Educational Research Association. Los Angeles (April 1981).

Tovey, Duane R. "Teachers' Understanding of the Reading Process." Paper presented at the Annual Meeting of the International Reading Association. (27th, Chicago, Ill.) April 26-30 1982.

Turner R.L. "Some Predictors of Problems of Beginning Teachers." The Elementary School Journal 67(February 1967).

"The Acquisition of Teaching Skills in Elementary School Settings." Bulletin of the School of Education. Bloomington: University of Indiana Press, 41(January 1965).

Turner, R.L. and N.A. Fattu "Skill in Teaching: Reappraisal of the Concepts and Strategies in Teaching Effectiveness Research." Bulletin of the School of Education, Bloomington: University of Indiana Press, 36(1960), p. 1-40.

Vander Werf, L.S. How to Evaluate Teachers and Teaching. New York, N.Y.: Holt, Rinehart and Winston. 1958.

Wade, E.W. "The Construction and Validation of a Test of Ten Teacher Skills Used in Reading Instruction, Grades 2-5." (Doctoral Dissertation Indiana University). Dissertation Abstracts 22(1961), 167-168.

Wright, S. "Correlation and Causation." Journal of Agricultural Research. 20:6(1921), 557-585.

APPENDICES

J

Appendix A

Letter of Permission from Roman Catholic School Board  
Humber-St. Barbe

# Roman Catholic School Board - Humber St. Barbe

Renouf Crescent  
P. O. Box 368  
Corner Brook  
Newfoundland A2H 6G9  
Canada

Telephone: 634-5652  
634-5892  
634-2801  
634-4233

August 2, 1983

Mr. Wilfred Carey  
Crane's Avenue  
CORNER BROOK, NF

Dear Mr. Carey:

Approval is hereby given for you to carry out research in the schools throughout the district as part of the requirement for a Master of Education Degree.

Every good wish for continued success in your work.

Sincerely yours,

Gerald P. Fallon  
SUPERINTENDENT OF EDUCATION

GPF/bc



Appendix B  
Letter of Introduction

1 Crane's Avenue  
Corner Brook, NF  
A2H 5J7

February 18, 1983

Dear Sir:

I am an elementary teacher employed with the Roman Catholic School Board, Humber-St. Barbe, and am presently carrying out research in accordance with the thesis requirements for the M.Ed. Degree through Memorial University of Newfoundland.

In this regard, I have chosen to conduct a study of teacher knowledge of reading and I have received the permission of the board Superintendent, Mr. G. Fallon, to solicit help.

In order to carry out this research, it is necessary to obtain the cooperation of teachers involved in reading instruction. Specifically, the teachers would be requested, on a voluntary basis, to complete the Inventory of Teacher Knowledge of Reading, and the accompanying Teacher Information Sheet.

As you will no doubt notice, the inventory is quite exhaustive and lengthy, and although there is no time limit, the time required to complete it is approximately 60 minutes. I realize that this is quite an imposition, but your cooperation will be most appreciated and is essential if the results of this study are to be valid.

I am well aware of the busy schedule of teachers. Realizing this, may I suggest that cooperating teachers be given the Inventory and the Information sheet to complete at their convenience over a period of a week--in this way they would have the option of completing it in one sitting or spreading it out over a couple of days.

Toward the middle of the week, it would be appreciated if you could give the teachers a reminder of the deadline. At the end of the week, would you please collect the inventories, information sheets, and answer sheets. In this way there would be a greater likelihood of achieving a high return. This is very important since the inventories must then be distributed to other teachers. For this reason, also, would you please stress that answers to inventory items should not be indicated in the booklet itself. Answers should be indicated on the accompanying answer sheet.

It is important that each teacher complete the inventory on his/her own since discussion about a particular item would jeopardize the results.

It should be explained to teachers involved that their names are not required and thus anonymity and confidentiality are assured. This exercise is solely for the purpose of collecting and analyzing data from those involved in reading instruction in actual classroom situations.

To aid teachers in scheduling the time necessary for the completion of the inventory, and in order to allow me the time necessary to score the inventory, would you please have the package collected by February 25, 1983.

If there are any questions concerning any test items or any problems arising in connection with the package, I may be contacted by telephoning 634-7561 (home).

If any participating school would like a copy of the Inventory of Teacher Knowledge of Reading for its own use, I will happily make a copy available to you.

Thanking you in appreciation of your kind cooperation, I remain,

Yours truly,

WC:va

Wilfred Carey

Appendix C  
Teacher Information Sheet

Teacher Information Sheet

Sex: Male \_\_\_\_\_ Female \_\_\_\_\_

Teaching Assignment:

- K \_\_\_\_\_
- 1 \_\_\_\_\_
- 2 \_\_\_\_\_
- 3 \_\_\_\_\_
- 4 \_\_\_\_\_
- 5 \_\_\_\_\_
- 6 \_\_\_\_\_

Special Education \_\_\_\_\_

Other (Please Specify) \_\_\_\_\_

Number of years teaching experience \_\_\_\_\_

Teaching Certificate:

- I \_\_\_\_\_
- II \_\_\_\_\_
- III \_\_\_\_\_
- IV \_\_\_\_\_
- V \_\_\_\_\_
- VI \_\_\_\_\_
- VII \_\_\_\_\_

Professional Qualifications:

No Degree \_\_\_\_\_ B.A. \_\_\_\_\_ B.A. Ed. \_\_\_\_\_ B.Ed. \_\_\_\_\_ M.Ed. \_\_\_\_\_

Major Field of Study \_\_\_\_\_

Number of University Courses in reading \_\_\_\_\_



Appendix D

Answer Sheet to Accompany Inventory  
of Teacher Knowledge of Reading

Answer Sheet To Accompany  
Inventory of Teacher Knowledge of Reading

Note: Please do not write in test booklet. Please indicate your answer (a, b, c, d) in spaces following appropriate number.

1	_____	26	_____	51	_____	76	_____
2	_____	27	_____	52	_____	77	_____
3	_____	28	_____	53	_____	78	_____
4	_____	29	_____	54	_____	79	_____
5	_____	30	_____	55	_____	80	_____
6	_____	31	_____	56	_____	81	_____
7	_____	32	_____	57	_____	82	_____
8	_____	33	_____	58	_____	83	_____
9	_____	34	_____	59	_____	84	_____
10	_____	35	_____	60	_____	85	_____
11	_____	36	_____	61	_____	86	_____
12	_____	37	_____	62	_____	87	_____
13	_____	38	_____	63	_____	88	_____
14	_____	39	_____	64	_____	89	_____
15	_____	40	_____	65	_____	90	_____
16	_____	41	_____	66	_____	91	_____
17	_____	42	_____	67	_____	92	_____
18	_____	43	_____	68	_____	93	_____
19	_____	44	_____	69	_____	94	_____
20	_____	45	_____	70	_____	95	_____
21	_____	46	_____	71	_____	96	_____
22	_____	47	_____	72	_____	97	_____
23	_____	48	_____	73	_____		
24	_____	49	_____	74	_____		
25	_____	50	_____	75	_____		

Appendix E

Hierarchy of Meaning Skills

APPENDIX E

Hierarchy of Reading Skills

The Barrett Taxonomy: Cognitive and Affective Dimensions of Reading Comprehension\*

Literal Comprehension	Reorganization	Inferential Comprehension	Evaluation (judgments of)	Appreciation
recognition and recall of:	classifying	inferring of:	factor opinion	emotional response to content
details	outlining	details	adequacy and validity	identification with characters or incidents
main ideas	summarizing	main ideas	worth, desirability and acceptability	reactions to author's use of language
sequence	synthesizing	sequence	appropriateness	imagery
comparisons		comparisons		
cause-effect relationships		cause-effect		
character traits		character traits		
		predicting outcomes		
		figurative language		
Literal	Reorganization or Inferential Comprehension or	Convergent Thinking Divergent Thinking	Evaluation	Appreciation

Adapted from Barrett's Taxonomy as presented in T. Clymer, What is reading?: Some Current concepts in M. Robinson (ed.), Innovation and change in reading instruction, Sixty-Seventh Yearbook of the National Society for the Study of Education. Chicago: The University of Chicago Press, 1963, 7-28.

5

Appendix F

Reading Study Skills

10



Appendix F

Reading Study Skills

I. Location skills

A. Using books effectively

1. Table of Contents
2. Index
  - (a) Alphabetical order
  - (b) Key words
  - (c) Cross references
  - (d) Abbreviations and commonly used signals
3. Glossary and appendix
4. Bibliography and footnotes

B. Using reference materials

1. Encyclopedia
2. Atlas
3. Newspapers and periodicals
4. Dictionary
  - (a) Alphabetical order
  - (b) Selecting appropriate meanings
  - (c) Root words, derived and inflected forms
  - (d) Pronunciation
  - (e) As a spelling aid

C. Using the library

1. Card catalog
2. Organization of library
  - (a) Shelf and floor plans
  - (b) Dewey decimal system (or other methods)
3. Appropriate indexes
  - (a) Bibliographical dictionaries
  - (b) Reader's Guide
  - (c) Subject Index to Poetry
  - (d) Bound periodicals

D. Using maps, graphs, charts

II. Organizing skills

- A. Outlining
- B. Summarizing
- C. Note taking
- D. Previewing

III. Selection and evaluation skills

- A. Checking validity

III. Selection and evaluation skills (Cont'd)

- B. Differentiating between fact and opinion
- C. Making inferences
- D. Detecting bias
- E. Checking competency of writer
- F. Noting satire, humor, allusions, etc.







