

THE RELATIONSHIP BETWEEN PARENTAL SUPPORT  
FOR LITERACY, SCHOOL ATTENDANCE AND  
THE READING BEHAVIORS OF MUSQUEAM CHILDREN

by

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## ABSTRACT

The present study attempted to examine reading and writing behaviors of Musqueam Indian children in kindergarten and grade one to see if a similar profile of reading and writing behaviors existed within this urban unilingual Native Indian population. The relationship these behaviors had with parental provision for literacy activities during the pre-school years and school attendance was explored.

It was hypothesized that there would be no similar profile of reading and writing behaviors within the Musqueam population and that there would be no correlation between the variables, the index of parental provision for literacy activities during the preschool years, total school absence and reading and writing performance in kindergarten and grade one.

Individual administration of the Diagnostic Survey (Clay) at kindergarten and grade one yielded a description of reading and writing behaviors. Subtests measuring knowledge of letter identification, concepts about print, sight words, and writing vocabulary were administered in both grades. Subtests including oral reading of passages, writing level, and dictation were added in grade one.

Group means, standard deviations and range of scores were calculated for the Diagnostic Survey subtests at kindergarten and grade one and examined for similarities. A questionnaire was used to establish an index for parental

provision for literacy activities. Total school absence was obtained from school records.

The relationship subtests of the Diagnostic Survey had with the Index of Parent Support for Literacy Activities and School Absence was explored using Pearson Product-Moment correlational analysis.

Results indicated that no similar profile of reading and writing behaviors existed within the Musqueam population. Excluding the sight word subtest at K, Pearson Product-Moment correlations between all subtests of the Diagnostic Survey and the Index of Parental Provision for Literacy Activities were found to be significant ( $p < .05$ ). No significant correlations were found between survey subtests and total school absence.

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## CHAPTER ONE THE PROBLEM

### 1.1 INTRODUCTION

More than ever there is a need for information and research on Native Indian education. Today's Indian children will need, as adults, to deal with unique political issues such as Native rights to land claims and self government as well as the regular demands of life. Over the past decade the need for better education has been recognized increasingly by parents and educators of Indian children (Burnaby 1984; More 1984; Anderson 1986).

Only a small body of research is available that examines the education of Indian children (More 1984). A small portion of these studies focuses on elementary-aged students. In every study involving elementary students, reading achievement scores were used as the basis for interpreting the child's educational level. Though reading attainment has been recognized as the best measure of how well a child is doing in school and the best predictor of later achievement in school (Hewison and Tizard 1980), reading achievement scores from group administered tests often do not provide the best measure of reading attainment for Indian children (Hawthorne 1967; Bank Street 1976; Burnaby 1984; More 1984).

The existing body of research has also neglected to examine background factors that may influence reading achievement. Although several studies proposed factors that might have influenced reading achievement, no studies could

be found that examined the effect parental support for literacy or school attendance have on Indian children learning to read and write in school.

The present study was an attempt to address these issues in a two-phase model. First, using individually administered measures, reading and writing behaviors of Indian children in kindergarten and grade one were analysed. Second, the relationship that parental support for literacy activities during the preschool years or school attendance had with reading and writing attainment to grade one was measured.

## 1.2 BACKGROUND TO THE PROBLEM

Though research on the education of Native Indian populations in North America has tended to focus on reading achievement, only a few studies have examined reading or writing in primary school-aged Indian children (Galloway Mickelson and Burchfield 1968; Graham 1972; Downing, Ollila and Oliver 1973; Simpson-Tyson 1978; Dehyle 1983; Boloz and Jenness 1984; Hoffman 1985; Anderson 1986). The findings from these studies point to the conclusion that Indian children's reading achievement scores, as compared with their classmates, lag progressively as they pass through school. While several explanations have been given to account for this lower performance, there are basic problems regarding the measurement of reading ability.

### 1.2.1 WEAKNESSES IN MEASUREMENT OF READING IN NATIVE POPULATIONS

All studies reviewed examined reading performance on group administered reading achievement tests and hypothesized variables that may have affected lesser performance on these measures. There are four weak areas in this research.

First, extensive needs assessments conducted on academic achievement in Native populations in Canada and the United States state that Indian children perform much better on individually administered measures (Hawthorne 1967; Bank Street 1976; Burnaby 1984). Many Native children are not familiar with formal group situations in which they are required to display the extent of their knowledge (Scollon and Scollon 1981).

Second, Indian children are often unfamiliar with the formal types of question/answer formats used on standardized tests. Their information base, though often well developed, is not germane to the specific experiences tapped in many reading achievement tests. These tests may not be measuring an Indian child's actual reading performance or overall reading attainment but rather their performance on a specific skill in an unfamiliar context. Native children may display their knowledge of reading better using familiar reading materials in an one-to-one setting.

Third, many variables have been hypothesized to account for lower reading achievement in Native populations but few studies have focused on examining one variable and analysing

its relationship with reading achievement in school. Variables that have been hypothesized include parental attitude towards schooling (Kirkness 1984), impoverished environment before schooling (Downing, Ollila and Oliver 1973), poor school attendance (Hawthorne 1967), prevalence of middle ear infections (McShane 1979), need for parent education (Mayfield 1981), weakness in language development (Galloway 1968; Simpson-Tyson 1978; Nelson 1984) and a mismatch in learning styles between the home and school (Scollon and Scollon 1981; More 1984). None of these factors has been explored extensively enough to attribute a causal link with reading achievement in school. Moreover, these factors have not been explored extensively enough to generalize to all Native Indian populations.

Finally, no published tests of reading achievement appear to include norms for Native Indian populations or a sufficient representative sample of Indian children in their norming population (More 1987).

#### 1.2.2 MEASURING READING ABILITY IN NON-NATIVE POPULATIONS

During the same period, early literacy experiences and their influence on learning to read and write have been examined extensively in non-Native populations. This literature has indicated that pre-school literacy experiences are significantly correlated with reading and writing attainment in school. Parental support for literacy activities in the home, especially bookreading, has been identified as being

one of the significant variables affecting progress in school.

One of the most thorough studies examining parental influence on learning to read in school was conducted by Moon and Wells (1979). Significant factors found to have influenced reading attainment in school at age seven were the preschool child's knowledge of books and literacy, parental support for literacy activities in the home and the quality of parent-child verbal interaction in the home. Hewison and Tizard (1980) found that reading achievement at age 7 was most strongly correlated with whether or not the mother regularly listened to the child read. Similarly, Walker and Kuerbitz (1979), investigating the effect of reading to pre-schoolers on reading achievement in school, found that children who had been read to regularly at home scored higher on reading achievement tests in school. Many other studies have found support for the positive influences of bookreading on literacy development (Holdaway 1979; Bissex 1980; Clark 1984; Teale 1984).

### 1.3 STATEMENT OF THE PROBLEM

Attempts to examine Indian children's education have focused on examining reading achievement scores from group administered tests. Current needs assessments have identified this procedure as an ineffective way of measuring Indian children's reading behaviors (Hawthorne 1967; Burnaby 1984; Anderson 1986). If this method of assessment is not

appropriate, then individually administered assessment measures based on materials the children are familiar with may reveal a more in-depth knowledge of what Indian children know about reading and writing.

Researchers examining reading achievement have hypothesized variables that may affect Indian children's performance on these tests. However, few studies have focused on examining background factors that may affect performance on reading and writing measures in school. At the same time research on non-Native populations has indicated that parental support for literacy activities in the home has a significant influence on reading attainment in school (Moon and Wells 1981). One would intuitively expect this variable to also influence learning to read and write in Indian populations. Though Scollon and Scollon (1981) noted variations in orientations to literacy when comparing their own child with schooled, rural, bilingual Indian children, their study did not provide adequate information to relate to the problems other Indian populations with varying geographical and linguistic backgrounds have with reading and writing in school. Specifically, it did not provide adequate information to understand problems urban, unilingual English Native Indian children have with learning to read and write in school. Parental support for literacy activities in urban Indian homes may also play a significant role in influencing reading and writing attainment in school.



#### 1.4 PURPOSE OF THE STUDY

For twenty years Musqueam Indian children have generally scored below their age-mates on various group administered standardized reading tests. This performance has not been acceptable to parents, teachers and students (Anderson 1986). It was suspected that these measures did not adequately reflect what Indian children knew about reading. More information was needed to understand the strengths and weaknesses Musqueam children had with learning to read and write in school.

The proposed study had three purposes. The first purpose was to examine the reading and writing behaviors of Musqueam Indian children through kindergarten and grade one on a battery of individually administered literacy measures to see if similar profiles of reading and writing behaviors existed.

The second purpose was to obtain information on pre-school literacy (see def.) experiences in Musqueam homes and to explore the relationship these experiences had with reading and writing in kindergarten and grade one.

Finally, as school absence had often been a problem with some Musqueam children (Anderson 1986), the relationship school attendance had with reading and writing attainment in these grades was be examined.

### 1.5 QUESTIONS

The study examined the following questions:

1. Is there a similar profile of reading and writing behaviors within the Musqueam population. That is, are there unique trends of reading and writing performance shown by Musqueam Indian children on a variety of literacy measures in kindergarten and grade one?
2. To what extent is parental support for literacy activities in the preschool years related to reading and writing performance of Musqueam children in kindergarten and grade one?
3. What is the relationship between school attendance and reading and writing attainment in kindergarten and grade one within the Musqueam population?

### 1.6 HYPOTHESES

The research hypotheses stated in their null form were derived from the research questions.

1. There will be no similar profile of reading and writing performance of Musqueam children in kindergarten and grade one within the Musqueam population.
2. There will be no significant correlation between parental provision for literacy activities in the Musqueam homes during the preschool years and reading attainment in kindergarten and grade one.

3. There will be no significant correlation between school attendance and reading attainment in kindergarten and grade one.

#### 1.7 DEFINITIONS OF TERMS

The following statements will clarify the terms as they were used in this study.

1. Musqueam Indian: All school aged children whose education is financed by the Department of Education through the Musqueam reservation will be considered to be of Musqueam descent.
2. Parent: The present supporting adult/adults will be assumed to be the significant caregiver in the child's preschool years.
3. Literacy: Gee (1986) defines literacy as being a set of discourse practices or ways of using language and making sense in both speech and writing. In this study the term literacy will be defined as ways of using language and making sense around reading and writing.
4. Parental Provision for Literacy Activities during the Preschool Years: This term was meant to encompass the following: a. the extent to which materials for reading and writing were available in the home, b. the extent to which the caregiver observed the child either attempting to read and write, and c. the extent to which the adult engaged in a reading or writing experience with their child.

5. Interrater reliability: Interrater reliability was calculated for the scores given to determine developmental levels of language, message quality and directionality in the writing sample analysis (see Appendix A). Judgemental opinions, difference in grade level of expertise of the scoring adults, and variation in the three samples of writing collected from each student are possible confusions that may interfere with the choice of score given (Huntley 1986). Consequently, responses were considered a hit if they fell into the satisfactory (score of 5-6) or non-satisfactory (score of 0-4) level.
6. Reading attainment: Reading attainment, for the purpose of this study, was considered to be the overall level of accuracy obtained on each of the subtests of the Diagnostic Survey (Clay 1985).
7. Topic-centered Stories: Stories are tightly organized and center on a single, clearly identifiable topic. Thematic development is characteristically achieved through a linear progression of information, providing a focussed description of a single event or object (Michaels 1981, p. 428).
8. Topic-Associated Stories: With this sort of discourse, the point of the children's stories need to be inferred from a series of subanecdotes. Topic associating discourse contributions are perceived by teachers to be

disorganized and unfocussed, although children themselves perceive organization, cohesion and focus (Michaels 1981).

#### 1.8 LIMITATIONS

1. The study was confined to subjects drawn from one band of urban Native children living on one reserve. Their performance on criterion measures and their parental support for literacy activities may not be typical of other urban populations.
2. Sample size was small (approximately 13) but included all Musqueam children presently in kindergarten as identified by the Musqueam Education Co-ordinator.
3. Information on parental support for literacy activities during the preschool years was obtained using a retrospective interview-questionnaire format administered in kindergarten. This type of self-reporting had the limitation of only being accurate to the degree that self-perceptions of the four previous years were accurate and to the degree that the person was willing to express them honestly (Borg and Gall 1979). As privacy is highly valued in the Musqueam population, a request to pursue ethnographic research was not pursued. The researcher had known several Musqueam families for four years so felt that adults might be willing to offer information as honestly as they could remember it.

4. Some children had repeated either kindergarten or grade one so that the age of children in each grade may have spanned two years.

5. Two subtests depended on examiner judgement to interpret reading and writing levels. In The Running Record of Reading Subtest, the examiner was required to use a category of error to code responses (see Appendix A). Interrater reliability would have helped in assessing the reliability of responses given. However, the researcher could not find a person with suitable experience using this instrument who had the time (one-half hour per student) to score the subtest. An interrater reliability coefficient was calculated for the second subtest dependent on researcher judgement, the Writing Sample analysis (see Chapter Three, p. 38).

This chapter has presented a statement of the problem and research questions to be examined. The following chapter will review the literature related to this problem from an historical and sociological perspective.

## CHAPTER TWO REVIEW OF THE LITERATURE

### 2.1 INTRODUCTION

The present chapter offers a review of related literature considered within the framework of this study. Studies examining reading and writing from a cultural-historic perspective will be reviewed. That is, literacy will be considered to be part of a social order passed down from generation to generation through a process of socialization, particularly around literacy activities in the home, as well as at school (Olson 1984). The review is organized under four major headings, historical development of Indian education, needs assessment and reading achievement in Indian populations, socio-cultural variables linked to reading ability in Indian populations and influence of the home on learning to read in school in non-Indian populations.

### 2.2 HISTORICAL DEVELOPMENT OF INDIAN EDUCATION

In the early seventeenth century, in Canada, Roman Catholic missionaries established schools for Indians (Kirkness 1985). However until 1850 most Indian children learned their Native language from adults in their community. Knowledge was principally transmitted through a rich tradition of oral story telling. Children listened to stories told over several presentations so they were able to absorb their teachings.

From 1850-1949 religious orders and the government jointly assumed responsibility for the education of Indian



children. Children were sent to residential schools away from their reserves. They were forbidden to speak their Native language and were instructed to read and write in English. This was very difficult considering their culture was solely oral (Kirkness 1984). After ten years in school most children returned home having reached a reading achievement level equivalent to grade three and not having had the opportunity to learn customs central to their Native community (Williams 1986).

In 1949 Indian children were first allowed to attend public schools. Some families continued to send their children to residential schools until they closed in the 1960's (Kirkness 1984). Today, in Canada, Indian children either attend band operated schools or go to public schools.

The majority of parents with children presently in school have had some of their education in residential schools (Kirkness 1984). Many parents have negative feelings about a school system that has avoided recognition of their Native culture and are dealing with this issue in varying ways. Some parents support band operated schools (Kirkness 1985). Other parents want their children to attend public schools (Anderson 1986). Whichever type of school they support another issue is pertinent. Many parents are in a transition between trying to regain or retain traditional customs while wanting their children to read and write at an achievement level equivalent to the contemporary mainstream

culture. This transition has precipitated parental behaviors ranging from avoiding contact with the school and allowing children to stay home from school (Anderson 1986) to actively reading with their children daily and helping with homework.

In the United States, in a similar way, the government and religious orders have historically controlled the education of Indian students. Likewise most Indian children have underachieved in the school system and parental support for education has also varied (Bank Street 1976; Rosier and Holm 1980).

More research is needed to examine the extent of the diversity that may exist in parental support for literacy activities and how this affects Indian children learning to read and write in kindergarten and grade one.

## 2.3 NEEDS ASSESSMENTS AND READING ACHIEVEMENT IN INDIAN POPULATIONS

### 2.3.1 CANADIAN INDIANS

At present, less than twenty per cent of Canadian Indian students finish grade twelve. This high school dropout rate has been primarily attributed to lack of mastery of literacy skills needed for formal education (Mayfield 1985).

As early as 1967 the Hawthorne report addressed the same issue. Approximately one hundred non-Indian and one hundred twenty-five Indian adolescents from three non-identified Indian communities, in British Columbia, were interviewed to determine what effects public school had on the education of

the Native child. At that time approximately eighty per cent of Indian children repeated grade one. Hawthorne attributed this poor performance in school to socio-cultural factors such as health and differences between expectations placed on the child at home and at school. He also recommended that group administered pencil and paper tests be eliminated as a means of assessing reading.

Since then several studies have been conducted outlining the educational needs of Indian students (Burnaby 1980; Kirkness 1984; More 1984). All have identified the need to improve reading and writing as a major goal. One limitation of these studies is that they all focused on reading as measured by group administered paper and pencil reading achievement tests long criticized as being inappropriate for Indian students. More research was needed that measured reading behaviors on individually administered instruments.

#### 2.3.2 AMERICAN INDIANS

In the United States a major needs assessment examining the education of young Native Americans was conducted by the Bank Street College of Education (1976). Five hundred and sixty-two Native American adults from twenty-six communities were interviewed. A main recommendation was to improve the literacy skills of Indian students focusing on the early school years. Since then several programs have been created to support literacy development in the preschool years (Daybreak Star Preschool 1983; Mayfield 1984; Pueblo Infant-Parent Education Project 1986). However, no programs could

be found that examined urban unilingual English speaking Indians during both the preschool and early school years.

### 2.3.3 REVIEW OF RESEARCH ON ASSESSMENT

All studies reviewed reported a need to improve the reading and writing skills of Indian children. On standardized reading achievement tests, Indian children have consistently scored below their classmates in integrated schools and below national norms in all Native schools. This gap has continued to widen as they pass through the grades (Hawthorne 1967; Bank Street 1976). Anderson (1986) examined reading achievement scores of Musqueam children over the past ten years. In the primary grades, children were, on the average, seven months below their grade level. By grade seven this gap had widened to one year and five months. Yet all studies reviewed persisted in using group administered standardized tests long criticized as inappropriate measures of reading behaviors in Indian populations.

The intent of this study was to improve on previous studies by examining reading strengths as well as weaknesses on individually administered measures of reading behaviors. Support for this approach was found in one study. Boloz and Jenness (1984) observed Navajo children in an integrated kindergarten that was based on an emergent literacy model. They discovered that Navajo children had strong concepts of written language when they entered school. Their quality of work varied due to ability to speak English and maturity and

knowledge of letter sounds, but all Navajo children felt they were able to write and they were actively involved in this pursuit. Children were able to use the knowledge of literacy they had acquired at home to begin to read and write in school.

## 2.4 SOCIO-CULTURAL VARIABLES LINKED TO READING ABILITY IN INDIAN POPULATIONS

In the research reviewed, socio-cultural factors, more prevalent in Indian populations than in contemporary non-Indian populations, were proposed to have an influence on lowering reading scores in Indian populations. Literature in this section will be organized under the headings of health, parenting education, communicative style, oral language and cognition.

### 2.4.1 HEALTH

Mayfield (1985) attributed slow development of academic skills to a combination of health, social, educational and economic factors. One of the most prevalent health problems that has affected Indian children's reading performance has been their high incidence of otitis media or middle ear disease (McShane 1979).

McShane reviewed studies on urban and rural American Native children and found that while ear infections were estimated to occur at the rate of 50% among children in the general population, they were more prevalent in Indian children. Estimates ranged from 20% to 70%.

A variety of learning difficulties have been related to middle ear infections. Correlates identified have been delayed speech and language acquisition, delayed auditory-visual integration, delayed auditory sequential memory ability, reading disorder, and poor spelling skills (Katz 1978; Zinkus 1978; McShane 1979).

Other health factors suggested as being associated with lesser academic performance in Indian children were fetal alcohol syndrome and health conditions due to poverty (Burnaby 1980).

#### 2.4.2 PARENTING EDUCATION

Several Indian communities concerned about lower performance on academic skills have made an attempt to develop parenting education programs.

A longitudinal evaluation of a Native infant program that operated on five reserves in the Cowichan Valley on Vancouver Island was conducted by Mayfield (1981). Approximately one hundred ninety children ranging from birth to age four participated in a home based developmental program. Materials on family teachings and practises sanctioned by band elders were used. Information developed by the elders was presented in such format as "Talk to your baby from the very start. This way you will not be a stranger to your child." (p. 302).

Results from parent interviews, anecdotal reports, content analysis of log books and follow-up referrals showed

that children who were in the program more than eighteen months had the fewest questionable and below acceptable norm ratings on the Denver Developmental Screening Test. Parents were surprised at how much their children were able to learn. There was an increased interest in the child shown by the father, book reading was more common and parents had begun to teach their child rather than waiting for the school to do it. Parents' educational expectations for their children increased. Similar results are being found in several American programs. Unfortunately the Cowichan program was discontinued so no follow-up examination took place to assess parental support for literacy activities as they affected later school achievement.

#### 2.4.3 COMMUNICATIVE STYLE

Some studies have focused on cultural differences in communicative style and how this has affected academic performance of Native children in school. Scollon and Scollon (1981) observed Native children learning to read and write in Fort Chipeway, Alberta and Alaska. From their ethnographic research they developed the notion of bush consciousness and modern consciousness. Northern Native children were said to have developed a bush consciousness that depended on individual respect and non-verbal regulation. Children were encouraged to seek out knowledge of human experience and skills and once acquired not to display

their knowledge publicly unless they were in a position of dominance in relation to their audience. Verbal regulation was not a central feature of interaction between adult and child. For example, display "show me that you know what I know" questions were seldom used as a means of verifying knowledge. This traditional Native communicative style is in conflict with verbally regulated teacher-child interaction prevalent in reading instruction in school. For example, display questions like, "What is the beginning sound of 'dog'?" are frequently used in grade one classrooms. More research is needed to examine traditional bush consciousness orientations to learning in urban Native populations.

Results from ethnographic research in the classroom (Anderson 1986) revealed that urban Musqueam children readily participated in oral exchange in the classroom during the primary years. However, these children became reticent to verbally participate in class in the intermediate grades.

#### 2.4.4 ORAL LANGUAGE

During the past two decades there have been several studies that have focused on oral language deficits in Native children and the effect these deficits have had on reading achievement.

The same hypothesis was popular in studying black American children in the 1960's. Its main proponents, Bereiter and Englemann (1966), postulated that black children



had an inadequate ability to produce and comprehend standard English.

There were two glaring weaknesses in this research. First, studies on small populations of black children tended to be overgeneralized to all black American children. Secondly, language samples were collected in formal interview situations. Labov (1972) repudiated this interview format. In his study examining oral language proficiency in black American populations he found that the social situation in which the interview took place was the most powerful determinant of verbal behavior. The tendency to generalize to all Native populations and to test oral language in formal situations is also prevalent in examining oral language proficiency and reading attainment in Native populations.

Phillion and Galloway (1968) attempted to isolate weaknesses in language development in school-aged unilingual English speaking, Indian children. Their sample population consisted of all sixty-four children in grades four and seven in one elementary school in a small community on Vancouver Island. Twenty-eight out of sixty-four children were Native. Teachers observed oral language only in the classroom and administered the Gates Reading Test to all children in a group setting. An item analysis of reading test errors was conducted on lower scorers in vocabulary and comprehension subtests.

Galloway inferred that Indian children had inadequate language concept development due to their limited environmental experience. Other researchers have interpreted this lower performance as due to a lack of experience with formal testing situations (Anderson 1986), a lack of prior knowledge necessary to comprehend text or less experience with a variety of functions of print (Wells 1986).

Data gathered from classroom observations of oral language led to the interpretation that Native children were weak in their ability to make effective use of connecting words such as prepositions and conjunctions. Noting that Native children often spoke in "hurried" phrases, Phillion and Galloway concluded that Native children were unable to combine and recombine words and to transform statements into questions.

Teachers commented that verbal communication in the home was minimal (Phillion and Galloway 1968). They based their assumption on observations of talk observed when they visited students' homes as teacher/researchers. This would seem to be a highly invalid way of assessing talk in the home as Native Indian people are often reticent to talk to teachers about their children's school experiences. As well, there was no mention of any system to categorize oral language observations. Interrater reliability was not mentioned. If their mandate was to isolate weaknesses in language development in school, data gathering should have involved more organized procedures.

Simpson-Tyson (1978) examined the quantity and quality of oral English used by Crow and Northern Cheyenne children. She found that these children were not verbal in a controlled interview setting. They spoke with a high frequency of one and two word responses and were less affected by picture content than was expected. Children frequently had omissions in syntactical structure and difficulty with the word "to be" (p. 798). Simpson-Tyson recommended that reading of books be withheld until oral language improved.

Presently several school districts in British Columbia are instituting early language intervention programs for Native children (Nelson 1984; Hoffman 1985; More 1986). Programs include early identification of Native Indian children "at risk" in their kindergarten year. Those so identified received a concentrated skill-oriented program designed to enhance their reading readiness skills. Documentation of these programs has shown that children are achieving higher scores on reading achievement tests in grade one. More longitudinal research needs to be conducted to see if the positive effect continues. It is interesting to note that most of these programs are either conducted in the pre-school years or in the early grades but not both. Moreover, none of these studies examined urban unilingual English speaking Native Indian populations.

#### 2.4.5 COGNITION

Another variable found to be associated with learning to read and write was cognitive development.

It was somewhat difficult to compare studies in this area as each study differed in its focus and, in each case, a different Native population was examined.

Downing, Ollila and Oliver (1973) used fifty-nine unilingual English speaking Indian children matched with fifty-seven non-Indian children to test their hypothesis about reading based on the theory of cognitive clarity. All subjects were from kindergarten classes in two school districts in northern British Columbia.

They hypothesized that children entered the first phase of learning the skill of reading in a state of cognitive confusion. More specifically children do not understand the functions of reading and writing, do not know what actions they are supposed to perform and lack the concepts of the elements of spoken language which are coded by the writing system. Native children were assumed to be in this cognitive state when they entered kindergarten. Assumptions were based on the fact that Native Indian children come from a culture with no written tradition so they would have less chance to observe reading and writing in their preschool years.

Five subtests of the Canadian Reading Readiness Test were administered. Subtests were titled Orientation to Literacy, Understanding Literacy Behavior, Technical Language

of Literacy, Visual Letter Recognition, Letter-name Knowledge, and Initial Phonemes. In all, kindergarten children were required to respond to sixty-four items in a group administered paper and pencil test.

Downing, Ollila and Oliver found that Indian children scored significantly lower than non-Indian children on every measure. They summarized that Native children were cognitively confused in their orientation towards literacy when compared with non-Native populations.

Downing, Ollila and Oliver (1975) repeated the same assessment measure with sixty-two Native children matched with the same non-Native kindergarten population from two different British Columbia school districts. Similar results were reported. They again concluded that Native children show more cognitive confusion about reading and writing than comparative mainstream populations.

In both studies there was no mention of the limitation of trying to assess individual cognitive processes on group administered tests. Though it is an expedient method of assessment, factors that may influence test performance such as familiarity with the task and formality of context in which the test was administered could have gone unobserved.

Another cognitive variable identified by researchers to account for poor reading achievement scores has been learning style. In several studies, the mismatch between instructional methods used by reading teachers and learning styles of Indian children has been investigated.

More (1986) reported on a study in progress examining learning styles of Native and non-Native seven and ten year olds in south central British Columbia. Present findings seem to indicate that Native children show a relative strength in simultaneous or holistic processing. These results suggest the need for more emphasis on sight word approaches in reading instruction.

McShane (1979) reviewed studies that had used the Wechsler Intelligence Scale for Children (WISC) to measure cognition. He found a consistent verbal-performance discrepancy in every Native Indian population examined. The average verbal score was eighteen points below the performance score (McShane, p. 9).

The simultaneous/successive continuum and discrepancies between verbal and performance scales on IQ tests have been related to other cognitive style categorizations such as field independence/field dependence. Field independence has been associated with traditional Indian cultures and holistic learning styles.

In interpreting the tremendous range of tasks used to assess cognitive differences between Native and non-Native children, the question of ecological validity needs to be addressed (Karlbach 1986). Do these approaches take into account the historical learning environment of the Native Indian people as compared with their present day environment? For instance, many Indian populations are in a transition

from traditional to mainstream culture and may have not retained a learning style based on traditional ways of interacting.

More (1984) and Karlbach (1984) examined cognitive learning styles among Canadian Indians. The evidence was inconclusive regarding the field independence of Indian groups as a whole. However, subsamples appeared to be more field independent than field dependent. These conflicting results may lie in the nature of the socialization approach associated with each Native Indian subsample.

## 2.5 SUMMARY OF RESEARCH ON READING IN NATIVE POPULATIONS

This review on reading research in Native Indian populations has indicated that many variables have been associated with lesser performance on reading achievement tests. These have included negative parental attitude towards school, impoverished environment before school, prevalence of middle ear infections, need for parent education, weakness in language development, mismatch in communicative style and mismatch between learning style and reading instruction methods.

The review has also raised several important methodological problems to be considered in the present study. First, most research was based on a deficit model. If the focus of research was shifted to concentrate on the strengths Native children bring to literacy tasks in school, teachers might have useful knowledge to alter their teaching methods to support these strengths. Second, all studies reviewed

used the mean as the measure of central tendency. As populations examined were often small and distributions markedly skewed, the median should have also been calculated. Third, individually administered measures of assessment should have been included to compare reading performance on group and individually administered measures.

All studies reviewed concentrated on a different Native Indian population. In some instances Indian populations were not sufficiently described to ascertain whether they were urban or rural, unilingual or bilingual, or reserve or non-reserve children. This also made it difficult to compare populations or to relate findings to the Musqueam urban unilingual English children in the present study.

In conclusion, many studies have assessed the poorer performance of Indian students on reading achievement tests and have hypothesized socio-cultural differences to account for this performance. However no studies could be found that actually sampled one Native parent population to determine what effect they might have on their child's reading and writing performance in school. The following review of research examining factors during the preschool years that have influenced later school achievement in non-Native populations has facilitated the choosing of variables to be isolated in the present study.



## 2.6 INFLUENCE OF THE HOME ON LEARNING TO READ IN SCHOOL (NON-NATIVE LITERATURE)

One of the most thorough small scale studies examining parental influence on learning to read in school was conducted by Moon and Wells (1979). Within the context of the Bristol Longitudinal Language Development Program, they examined a sample population of twenty out of one hundred and twenty-eight children from eighteen different school classes. Several methods of data collection were used. At age five, tape recordings and transcripts were examined from the previous two years' language samples (collected as part of the Bristol project) to determine the quality of mother-child interaction in the home. Parents were interviewed concerning their child's and their own interest in literacy. A pre-school knowledge of literacy index was derived from Clay's (1977) Concepts of Print and Letter Identification tests administered when the child entered school.

At age seven Indices of Parental Provision of Resources for literacy learning, parental teaching and parental attitude towards literacy were derived from a parent interview. Teacher assessments of reading ability, attitude to reading and home attitude were obtained from checklists. Children were administered the Neale Accuracy and Comprehension Test as well as the Carver Test of Word Recognition.

Pearson Product correlations were calculated between the scores on all indices. Though sample size was small, results indicated that children's reading test scores at age seven

correlated highly with parental interest in, attitudes to, and provision of resources for literacy learning. The child's preschool knowledge of books and literacy was found to be intercorrelated with parental factors and also correlated highly with assessments of reading ability to age seven. The quality of verbal interaction between the parent and child was also related to the child's reading ability ( $p < .01$ ).

A similar study was conducted by Hewison and Tizard (1980). They found that reading achievement at age seven to eight was most strongly correlated with whether or not the mother regularly heard the child read.

Walker and Kuerbitz (1979) investigated the effect of reading to pre-schoolers on beginning reading success in school. The sample population consisted of thirty-six middle class grade one children from Midland, Michigan. Questionnaires were sent to parents to obtain information about story-time experiences prior to kindergarten. Children who had been read to daily scored significantly higher on the Stanford Achievement tests ( $p < .01$ ). Many other studies found support for the positive influences book reading has had on literacy development (Chomsky 1979; Holdaway 1979; Bissex 1980; Otto and Sulzby 1982; McCormick 1983; Clark 1984; Teale 1984).

Heath's (1980) ethnographic study of three communities presented evidence that as learning to read begins in the home it may also begin with varying cultural orientations.

Heath examined literacy events in Trackton, a black working class community, Roadville, a white working class community, and in homes of middle class teachers who lived close to these communities. She found substantial differences in the amount and use of print in the homes. She also found varying degrees to which the content and habits of book reading were extended beyond the event itself. Further she found varying degrees to which children were asked for "why" explanations. From these experiences children learned a set of patterns of language use which served as the basis for participating in reading instruction dialogue in school.

Teale (1986), used ethnographic techniques to study preschool literacy experiences in the homes of twenty-four low-income families of Anglo, Black and Mexican American children. He found a wide range in both quantity and quality of literacy events in the home but did not report on later success in school.

Scollon and Scollon (1981) found variations in orientation to literacy when informally comparing traditional Native Indian populations (see section 2.4.3, p. 21) with the acquisition of literacy in their own white middle class child.

These studies provided support for the examination of parental support for literacy in the home and its affect on reading achievement in school. As well, Heath's study provided support for a more in-depth examination of the reading and writing behaviors of Indian children.

## 2.7 SUMMARY

The research probing reading in elementary-age Indian populations was divided into two main sections -- research that focused on needs assessments and reading achievement and research that isolated variables associated with lesser performance on reading achievement tests in Indian populations. All needs assessments pointed to the need to improve literacy skills in Indian populations. Research isolating variables that affect Indian children learning to read and write generally focused on creating hypotheses to account for underachievement in school. Within the context of this literature review reading was viewed as test scores from group administered reading achievement tests. Slowly research in reading has begun to branch out from documenting reading test scores to the examination of reading in a wider context. Perhaps a shift to examining what Indian children know about reading and writing on individually administered measures during kindergarten and grade one might provide useful information for improving reading and writing behaviors throughout the school years.

In the section on research in reading in non-Native populations, parental support for literacy activities in the home was found to play a significant role in affecting reading and writing attainment in school. No research could be found that examined this issue in an urban Indian

population. The present study examined parental support for literacy activities in Musqueam homes and explored how this variable affected learning to read and write in school.

## CHAPTER THREE METHODOLOGY

### 3.1 OVERVIEW

The purpose of this study was to examine three problems. First, reading and writing behaviors of Musqueam children were to be examined through kindergarten and grade one to see if similarities between individual profiles existed. Second, information was to be obtained on parental support for pre-school literacy experiences in Musqueam homes. Third, attendance at school from the beginning of kindergarten to mid-grade was to be calculated. The relationship these variables have with reading and writing attainment in kindergarten and grade one was to be explored.

### 3.2 SUBJECTS

The subjects were all the Musqueam Indian children attending kindergarten as identified by the Musqueam Education Co-ordinator. Subjects attended either a public school or a private Catholic school in Vancouver. Thirteen children, six males and seven females, were identified. On September 1, 1985 they ranged in age from four years nine months to six years six months with a mean age of five years seven months. Six children were repeating a year during kindergarten and grade one. A principal parent or caregiver of each child was also identified.

All subjects lived on the Musqueam Indian Reserve in Vancouver, B.C. and spoke only English. The socio-economic

status of their families varied from lower to upper middle class status with children living in either single parent, two parent or extended family homes (Point 1987).

### 3.3 INSTRUMENTATION

The Diagnostic Survey (Clay 1985) which was chosen to examine children's reading and writing attainment in kindergarten and grade one is a criterion referenced assessment designed to measure reading and writing behaviors of children. It was initially designed to measure children at risk in these areas after one year of schooling. The instrument includes the following six subtests.

The Running Record of Reading subtest requires a child to read several familiar texts chosen from classroom materials. A set of standard observational procedures are used to record reading behaviors on each sample (see Appendix A). Errors and self-corrections are analysed so that the child has read a text at an easy (96-100% accuracy), instructional (90-95% accuracy) and difficult (80-89% accuracy) level. Reading behaviors or cues that the child utilizes at each level of text are analysed by calculating an error rate, accuracy rate and self-correction rate. The following formulae were used for calculation.

$$\text{Error Rate} = \frac{\text{Errors}}{\text{Total Words Read}} \times \frac{100}{1}$$

$$\text{Accuracy} = 100 - \frac{\text{Errors}}{\text{Total Words Read}} \times \frac{100}{1}$$

$$\text{Self-correction Rate} = \frac{\text{Errors} + \text{Self-corrections}}{\text{self-corrections}}$$

The Letter Identification subtest requires the child to give the name of a letter, a sound that is acceptable for that letter, and a word beginning with that sound. A total score from one of these categories is calculated for assessment. Concepts About Print measures such concepts as awareness of directionality of print, differences between letters and words, use of punctuation, book orientation, etc. A total score is calculated from the list of concepts appearing in Appendix A. Ready to Read Sight Words requires a child to read a high frequency sight word list of fifteen words. Each correct word scores one point. The Writing Sample analyses three samples of writing collected from three different time periods. Using a checklist of traits, a language level, message quality level and understanding of directional principles level is calculated. A score of 1 to 6 is given in each of these categories based on the level of development of writing. A score of 5-6 is considered satisfactory. The Test of Writing Vocabulary requires a child to write all the words he/she can in ten minutes. All correct words score one point. In the Dictation test the child is



required to write either one or two simple dictated sentences. Each correct phoneme displayed receives one point. Each subtest has a total raw score except for the Running Record of Reading subtest and the Writing Sample. See Appendix A for a further description of subtests and scoring procedures.

This instrument was chosen for evaluation because it covers a wide range of reading and writing behaviors and allows for familiar reading materials to be chosen for assessment. High reliability coefficients varying from .76 to .95, have been reported for several of the subtests (Day and Day 1979; Day and Perkins 1979; Johns 1980). Considering the strong disregard for using group administered reading tests on Native populations (see Chapter Two) this individually administered measure was deemed to be the most appropriate instrument to measure reading and writing attainment.

Information on parental provision for literacy activities during the preschool years was obtained through a semi-structured interview questionnaire developed by the researcher. Questions were derived from three instruments. These were the Home-Literacy Environment Index (HLEI) (Shapiro 1985), the Home Observation of the Environment (Caldwell and Bradley 1979), and the Bristol Parent Interview Schedule from the Bristol Longitudinal Language Development Research Program (Moon and Wells 1979). Questions that might provide culturally relevant information were added.

For example, parents were asked the extent to which they used oral story telling in teaching their children.

The interview questionnaire contained one hundred and twelve questions. Seventy-eight of these questions tapped information concerning parental provision for literacy activities during the preschool years and were embedded amongst the remaining questions to disguise the purpose of the interview. Twelve questions were open ended probing questions to obtain more detailed information on literacy practices. Respondents were given a standard format to deal with questions involving frequency of activities. For example, a card containing the format, nearly every day, about once a week, about once a month, less than once a month and never, as far as I can remember, was presented to the respondent for several questions so that the information obtained could be standardized for scoring. A copy of the Parent Interview Questionnaire is included in Appendix B.

Responses were coded on a Likert-type scale ranging from 1 to 5. An Index of Parental Provision for Literacy Activities during the preschool years was obtained by calculating a total score from literacy questions in the questionnaire. The total score for the index was 100.

### 3.4 DATA COLLECTION

The researcher became familiar with all subjects by visiting the Language Summer School at the Musqueam Indian Reserve during the summer preceeding kindergarten and visited

their school classes several times during September through November.

The sequence of data collection was as follows:

Kindergarten: All Musqueam children who attended kindergarten and their principal caregiver were identified. In October the researcher practised the interview questionnaire with the Musqueam Education Co-ordinator and the Musqueam Home-school Worker to receive corrective feedback and have performance clarified. In December each caregiver was interviewed in their home or at school using a semi-structured interview format. From this data, an index of parental support for literacy activities during the preschool years was calculated.

Next, the subtests, Letter Identification, Concepts About Print, Ready to Read Sight Words and Writing Vocabulary, of Clay's Diagnostic Survey (1985) were individually administered to each child. The Dictation, Running Record of Reading and Writing Sample subtests were not given in kindergarten as children were not reading beyond a few sight words and not in a writing program in school. Raw scores were calculated for each subtest for comparison purposes.

Grade one: Approximately eleven months after the previous assessment the complete battery of Clay's Diagnostic Survey was individually administered to the same subjects in grade one. In addition to the subtests used during kindergarten the following subtests were used: Dictation,

Running Record of Reading and Writing Sample. Raw scores were calculated on the same subtests used in kindergarten as well as Dictation. A profile of reading behaviors was recorded from the Running Record of Reading. The Writing Sample sub-test was analysed for language level, message quality and awareness of directionality based on a list of developmental traits in each category. Interrater reliability was  $r = 0.80$  (see Chapter One, definitions, p. 10)

Finally, using school records, a total number of school days absent from the beginning of kindergarten to March of grade one was calculated. Only absences during the two years included in this study were recorded so that the time frame of absences of subjects repeating a year would be commensurate with the non-repeating subjects.

### 3.5 DATA ANALYSIS

Data was organized to address the three null hypotheses posed in Chapter One. The first hypothesis was that there would be no similar profile of reading and writing performance within the Musqueam population during kindergarten and grade one. To address this hypothesis, where appropriate, raw scores were calculated for each student on subtests of the Diagnostic Survey administered in kindergarten and grade one. A mean, median, standard deviation and range was calculated for each subtest, as well as for the total survey administered in grade one. The range of scores were examined within the Musqueam population.

Particular performance traits noted during administration of tests, particularly the Running Record of Reading and Writing Sample, were listed and examined for similarities in reading and writing behaviors within the Musqueam population.

The second hypothesis was that there would be no significant correlation between parental provision for pre-school literacy activities in the home and reading attainment in kindergarten and grade one. Data were analysed as follows:

1. A total score indicating an index of parental support for literacy activities was calculated from the appropriate responses to literacy questions on the parent interview questionnaire.
2. Total raw scores were obtained for each subtest of the Diagnostic Survey administered in kindergarten and grade one, excluding the Running Record of Reading and Writing Sample subtests. As well, a total score was calculated for the survey administered in grade one.
3. Using raw scores from each subtest and the score for the index of parental provision for literacy activities during the preschool years, Pearson product moment correlations were calculated between each variable indicated in Table I. In other words, each subtest of the Diagnostic Survey as well as the total survey score in grade one were correlated with the index of parent provision for literacy activities. A one tailed analysis was used with a level of significance of  $p < .05$ .

TABLE I:

Correlations to be Calculated to Address Hypothesis Two

Diagnostic Survey Subtests	Parental Provision for Literacy Activities During Preschool Years
Kindergarten:	
Letter Identification	X
Concepts About Print	X
Ready to Read Sight Words	X
Writing Vocabulary	X
Grade One:	
Letter Identification	X
Concepts About Print	X
Ready to Read Sight Words	X
Writing Vocabulary	X
Dictation	X
Total Score of Survey	X

The third hypothesis was that there would be no significant correlation between total school absence and reading attainment in kindergarten and grade one. In order to address this hypothesis the following data were analysed.

1. Raw scores were obtained from each subtest of the Diagnostic Survey administered in kindergarten and grade one excluding the Running Record of Reading and Writing Sample subtests. As well, a total score was calculated for the survey administered in grade one.
2. A score representing the total number of school days absent from the beginning of kindergarten to March of grade one was calculated.

3. Using raw scores from each subtest, the total survey score in grade one and the score for school absence, Pearson product moment correlations were calculated between each variable listed in Table II. In other words, each subtest of the Diagnostic Survey as well as the total survey score for grade one were correlated with the school absence score.

TABLE II

Correlations to be Calculated to Address Hypothesis Three

---

Diagnostic Survey Subtests	School Absence
Kindergarten:	
Letter Identification	X
Concepts About Print	X
Ready to Read Sight Words	X
Writing Vocabulary	X
Grade One:	
Letter Identification	X
Concepts About Print	X
Ready to Read Sight Words	X
Writing Vocabulary	X
Dictation	X
Total Score of Survey	X

---

## CHAPTER FOUR RESULTS

The analysis of data in this study was organized to address the null hypotheses presented in Chapter One and to present additional information obtained from parent interviews. Raw scores for each of the thirteen subjects from each data source, Diagnostic Survey, Index of Parental Provision for Preschool Literacy Activities and Total School Absence are contained in Appendix C.

### 4.1 HYPOTHESIS ONE

There will be no similar profile of reading and writing performance of Musqueam children in kindergarten and grade one.

To address this hypothesis, data from each subtest of the Diagnostic Survey were reported. First, a summary of scores from relevant subtests were reported which included the mean, median, standard deviation and range of the scores on each subtest. Second, reading behaviors recorded from error analysis on the Running Record of Reading subtest were examined. Third, writing similarities found in samples of the children's daily stories were analysed. Fourth, a summary of analysis of reading and writing behaviors from the Diagnostic Survey was presented. Finally, the relevance of the hypothesis was addressed.



#### 4.1.1 DIAGNOSTIC SURVEY SUBTEST SCORES

A summary of scores from all Diagnostic Survey subtests administered in kindergarten and grade one excluding the Running Record of Reading and Writing Sample are displayed in Table III.

TABLE III

Mean, Standard Deviation, Median, Range of Diagnostic Survey subtests (N=13)

	Total Possible Score	Mean	Standard Deviation	Median	Range
Letter Identification (K)	54	33.00	19.43	39.00	1-53
Letter Identification (1)	54	43.92	16.79	52.00	2-54
Concepts About Print (K)	24	9.85	4.79	9.00	3-19
Concepts About Print (1)	24	15.77	5.15	17.00	8-24
Sight Words (K)	15	1.92	3.57	1.00	0-13
Sight Words (1)	15	7.69	5.74	10.00	0-15
Writing Vocabulary (K)		6.00	7.97	4.00	0-29
Writing Vocabulary (1)		24.46	12.94	24.00	1-56
Dictation (1)	37	29.92	14.21	27.00	0-37

Data from Table III indicated a wide range of scores on each subtest necessitating a further examination of distribution of scores (frequency of scores on each subtest displayed in Appendix D). If a similar profile of reading and writing performance was interpreted by noting a cluster of scores within a limited range then the null hypothesis that there is not a similar profile of reading and writing behaviors in the sample population would have to be accepted.

#### 4.1.2 RUNNING RECORD OF READING SUBTEST

Each child was given three passages (varying from 100-200 words in length) to read orally. The appropriate level of material was chosen from classroom materials.

Results are summarized as follows: Three out of thirteen children were considered as non-readers in this context. Each child could read his name. One child recognized the names of five colors and knew that print below a picture had a meaning relating to the picture but could not identify the word after having been given several cues that might be utilized in trying to determine what the word might be. Each of these children has since been placed in a special class.

Three more out of thirteen children could read pre-primer materials at a 90% accuracy rate (see Chapter Three, p. 38). Two children had a restricted bank of sight words and were just beginning to be aware that other strategies such as decoding or rereading a phrase to predict meaning might be utilized to read a passage. The third child at this level tended to concentrate on "sounding out" everything and had great difficulty blending the sounds into an appropriate word even though she participated in a reading program focusing on sight words.

Four children were reading mid-grade one passages at an instructional level. All were able to self correct their errors at a rate of 1:4 or better. All four children tended to look at the first letter of a word, to determine its sound

and to then try to predict the word from its context in the passage. Several times children did not have the correct word in their lexicon to recall and got frustrated trying to identify the word. For instance, in The Elves and the Shoemaker (Ladybird), a child was not familiar with the word "leather". He knew the /l/ sound but could not read the word. Children at this stage also tended to try and utilize the sight words they knew in a new context. For example, a child had learned the sight word "something" so when reading "surprise," she later explained that she knew it was a long "s" word so she guessed it was "something". She didn't choose to reread the text to check its correct meaning in the new context.

Three children could read materials above a grade two level at an instructional level. Two of these children were comfortable employing several cues to read their passages. They tended to focus on predicting meaning when trying to identify unknown words. They also tried decoding words and had a strong bank of sight words (each knew 92-95 of the 100 words on the Fry Grade One Sight Word List). Two of the three children had a self correction rate of 1:4 or better. The third child tended to constantly look for adult recognition and was unsure of her ability to self correct errors. Her self correction rate was 1:13.

In summary, no similar profile of reading behaviors of Musqueam children was found on the Running Record of Reading subtest.

#### 4.1.3 WRITING SAMPLE ANALYSIS

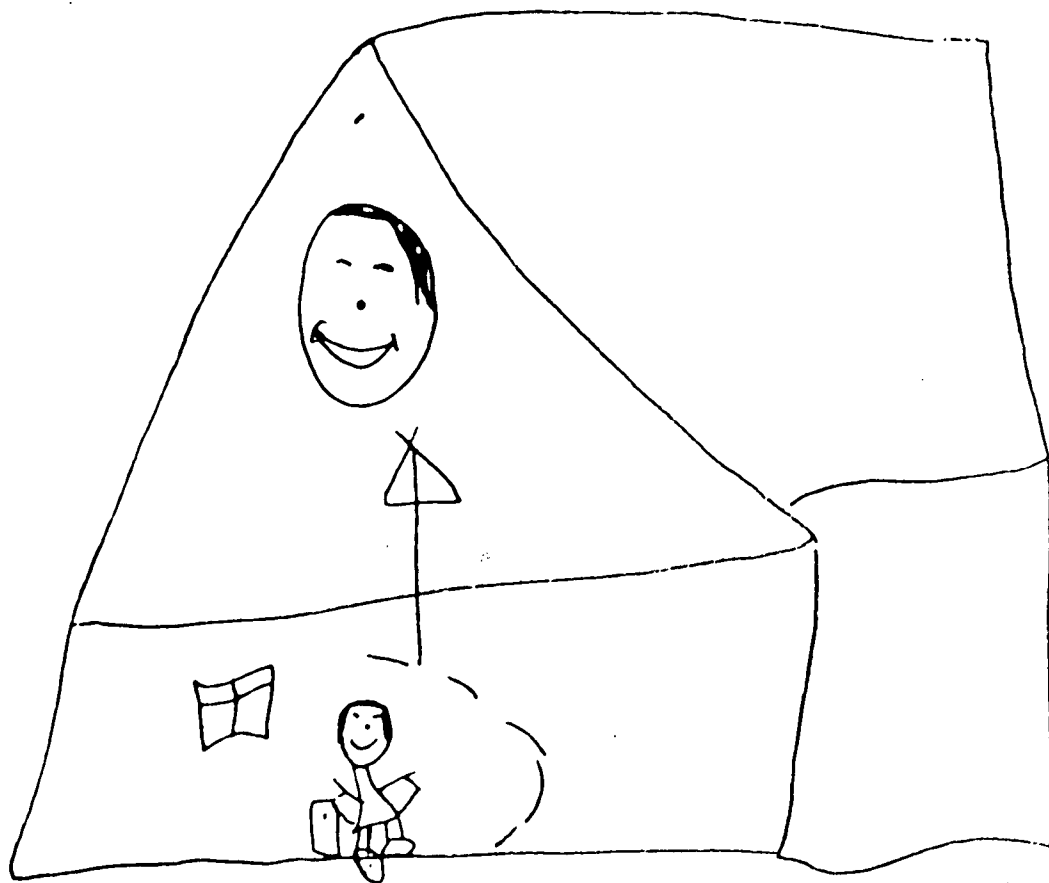
Three samples of children's stories written in the classroom over three consecutive weeks in grade one were obtained. These samples were rated for language level, message quality and directional features. A list of the items used to determine developmental levels of language, message quality and directionality is listed in Appendix A. A score of 5-6 is considered satisfactory in each category.

An example of analysis of a writing sample appears in Figure 1. The text should read "I went to my nanny's. She gave me candy." It was given a 5 for language level because it consisted of two sentences, a 6 for message quality because it was a successful composition using this criteria and a 5 for directional principles because it had the correct directional pattern and spaces between words.

FIGURE 1

Writing Sample from Writing Analysis Subtest

I wint to my  
noney she Gave  
canD



Results from the writing analysis subtest are displayed in Table IV.

TABLE IV  
Scores from Assessment of Writing Samples

Subject	Language Level	Message Quality	Directional Principles
01	4,5,4	5,4,5	5,5,5
02	5,4,4	4,5,5	5,5,5
03	5,4,5	4,5,4	5,5,5
04	2,4,2	5,3,5	4,4,4
05	5,5,5	6,6,5	5,5,5
06	2,4,1	3,4,1	2,4,2
07	4,4,3	6,6,3	5,5,4
08	4,3,5	5,6,5	5,5,6
09	1,1,1	1,1,1	1,1,1
10	5,5,5	5,5,5	5,5,5
11	4,4,4	5,5,5	5,4,5
12	4,4,5	5,6,6	5,5,6
13	1,1,1	3,3,3	4,4,4

Seven out of thirteen children scored at a level 5 or higher in the language level category of their writing. That is, they punctuated a story of two or more sentences. Nine out of thirteen children scored at a level of 5 or higher in the message quality category. That is, they recorded their own ideas. Nine out of thirteen children scored at a level of 5 or higher on the directional principle category. They used correct directional patterns in their writing and included spaces between their words. It is interesting to note that all children felt their written message conveyed meaning as they read their stories to the researcher. Consistent with the reading results the wide range of writing scores supported the null hypothesis that there was no similar profile of writing behavior in the Musqueam population.

#### 4.1.4 SUMMARY

An examination of raw scores on the Diagnostic Survey subtests showed that there was a wide range of performance within the Musqueam population on each subtest.

An analysis of reading errors on passages read at a 90% accuracy rate indicated that Musqueam children did not have a similar profile of reading behaviors in oral reading.

An analysis of writing samples indicated a wide range of scores on the language level, message quality and directional principles categories indicating that not all Musqueam children had a similar profile of writing behaviors.

Each category of analysis supports the acceptance of the null hypothesis that there is no similar profile of reading and writing behavior within the Musqueam population.

#### 4.2 HYPOTHESIS TWO

There will be no significant correlation between parental support for literacy activities during the preschool years and reading attainment in kindergarten and grade one.

To address this hypothesis a total score was calculated to establish an Index of Parental Support for Literacy Activities. Next, Pearson product-moment correlation coefficients were calculated between the parental index score and scores from each subtest on the Diagnostic Survey displayed in Appendix C. Finally, results were summarized to address the null hypothesis that there would be no significant correlations between these variables.

##### 4.2.1 SUMMARY OF SCORES FOR INDEX OF PARENTAL PROVISION FOR LITERACY ACTIVITIES

Scores tabulated for the Index of Parental Provision for Literacy Activities are seen in Table V.

TABLE V

Mean, Standard Deviation, Median and Range of the Index of Parental Provision for Literacy Activities During the Preschool Years (IPAR)

Variable	Total Score	Mean	Standard Deviation	Median	Range
IPAR	100	62.80	17.84	69.00	34-85



Consistent with performance on the Diagnostic Survey subtests, there is a wide variation in scores on the Index of Parental Provision for Literacy Activities in the Preschool Years variable.

#### 4.2.2 STATISTICAL ANALYSIS

Table VI displays the results of Pearson product-moment correlations calculated between IPAR and survey subtests.

Table VI

Pearson Product - Moment Correlation Coefficients between IPAR and Subtests of the Diagnostic Survey: One Tailed Analysis

SUBTEST	Index of Parent Provision for Literacy Activities
Letter Identification (K)	.77**
Letter Identification (1)	.58*
Concepts About Print (K)	.63*
Concepts About Print (1)	.76**
Sight Words (K)	.42
Sight Words (1)	.55*
Writing Vocabulary (K)	.57*
Writing Vocabulary (1)	.53*
Dictation (1)	.65*

\*  $p < .05$

\*\*  $p < .001$

With one exception, correlations between the Index of Parental Provision for Literacy Activities and each subtest of the Diagnostic Survey administered were found to be significant. The one exception was sight words at kindergarten. These results need to be interpreted with caution as the population was small,  $n=13$ , and most correlations were

below .65. It is interesting to note that correlation coefficients of .75 or higher ( $p < .001$ ) were found between IPAR and Letter Identification in kindergarten and IPAR and Concepts About Print in grade one. This finding is similar to findings in non-Native populations (Moon and Wells 1979; Teale 1984).

These findings support a rejection of the null hypothesis that there will be no significant correlation between parental support for literacy activities during the preschool years and reading attainment in kindergarten and grade one.

#### 4.3 HYPOTHESIS THREE

There will be no significant correlation between total school absence and reading attainment in kindergarten and grade one.

To address this hypothesis a total score representing school days absent was calculated. Next, Pearson product-moment correlation coefficients were calculated between the total school absence score and scores from each subtest on the Diagnostic Survey displayed in Appendix C. Finally, results were summarized to address the null hypothesis that there would be no significant correlation between these variables.

##### 4.3.1 TOTAL SCHOOL ABSENCE

Total school absence (TSA) was calculated by totalling school days absent from September, 1985 to March 1, 1987 during kindergarten and grade one. A summary of school attendance scores is displayed in Table VII.

TABLE VII

Mean, Standard Deviation, Median and Range of the Total School Absence Variable (TSA)

Variable	Mean	Standard Deviation	Median	Range
TSA	27.85	17.29	22.00	34-85.5

Consistent with performance on previous variables, there were wide variations in scores within the Musqueam population.

#### 4.3.2 STATISTICAL ANALYSIS

To address hypothesis three, Pearson product-moment correlation coefficients were calculated between each of the variables. Results are shown in Table VIII.

TABLE VIII

Pearson Product-Moment Correlation Coefficients between TSA and Subtests of the Diagnostic Survey: One Tailed Analysis

Subtest	TSA
Letter Identification (K)	-.22
Letter Identification (l)	-.02
Concepts About Print (K)	-.19
Concepts About Print (l)	-.00
Sight Words (K)	-.11
Sight Words (l)	-.20
Writing Vocabulary (K)	-.06
Writing Vocabulary (l)	-.36
Dictation (l)	-.34

\*  $p < .05$  level

\*\*  $p < .001$  level

No significant correlations were found between school absence and aspects of reading attainment but results were in the expected negative direction.

These findings support an acceptance of hypothesis three that there will be no significant correlation between school absence and reading attainment in kindergarten and grade one.

#### 4.4 ADDITIONAL INFORMATION FROM PARENT INTERVIEWS

Information obtained from probing questions in the parent interview were not reported in the calculation of the Index of Parental Provision for Literacy Activities. However, these findings may provide useful information for further research.

Responses were grouped under the categories: literacy materials provided in the home, reading and writing practises of the child observed by the principal caregiver, reading and writing events in which the child and caregiver participated. A list of these activities under each heading is found in Appendix E.

Literacy Materials Provided in the Home All thirteen children had books and drawing materials available to them in their homes. Three children subscribed to children's magazines and four children had used computers in their home.

Reading and Writing Practises Observed by the Principal Caregiver Twelve children read some letters of the alphabet before kindergarten and eleven looked at books on their own.

Twelve parents responded that their children recognized their name but only six children could write their name before they went to school. This event may help explain Musqueam children's low performance on the Writing Vocabulary subtest in kindergarten. Eight children had been attempting to read and eleven children had been writing some form of messages of their own. Eight children had repeated nursery rhymes.

#### Literacy Events in Which the Child and Caregiver Participated

Eleven children had been read to before they went to school. With nine of the eleven children, bookreading was an activity that several adults and siblings shared with the child. Four children read mainly with their mothers and fathers but in two cases this was not a regular activity.

Eight of the thirteen children were told oral customs and traditions by an adult. With five of the eight children an adult other than their mother or father told them the stories. Story roles varied from teaching a lesson to the child, to recounting an oral history of the family, to sharing traditions of Musqueam people. For example, two children were told the story of Kulkulith, the old woman of the woods who would steal you and put you in a basket if you ventured away from home when you weren't suppose to. One child was told a story of why the salmon spawned at the head of the Fraser river. Another child was told stories about her own family history. These practises may suggest a different approach to sharing Native customs and traditions

in school. Usually children are read published written narratives from other Indian bands which often do not contain information germane to their own experience.

Ten children had been to a library before. In most cases they had taken books from the preschool library on the reserve. Caregivers could remember reading labels on things with nine children and eleven caregivers remembered helping their children write a message though this was not a frequent activity.

Two other findings from the interview that are pertinent are that all children attended either preschool or daycare before they went to school. Eleven children attended the preschool on the reserve. Eleven out of thirteen parents wished their child would complete some form of post secondary education.

#### 4.5 SUMMARY OF RESULTS

Each null hypothesis was addressed and additional information obtained from parent interviews was noted. A summary of the findings is as follows.

Hypothesis One: On relevant subtests of the Diagnostic Survey there was a wide range of scores with the Musqueam population. On criterion referenced subtests of the Diagnostic Survey, subjects also displayed a wide variation in reading and writing behaviors. These findings support an acceptance of the null hypothesis that there will be no similar profile of reading and writing behaviors within the Musqueam population at the kindergarten and grade one level.

Hypothesis Two: An examination of scores from the Index of Parental Provision for Literacy Activities indicated a wide range of responses within the Musqueam population. However, Pearson product-moment correlation analysis relating this variable to Diagnostic Survey subtest scores in kindergarten and grade one yielded significant correlations in all but one subtest, Sight Words in kindergarten  $p < .05$ . These findings support the rejection of the null hypothesis that there will be no significant correlation between parental provision for literacy activities in the preschool years and reading attainment in kindergarten and grade one.

Hypothesis Three: An examination of Total School Absence scores again indicated a wide variation within the Musqueam population. Pearson product-moment correlational analysis between this variable and subtests of the Diagnostic Survey yielded no significant findings  $p < .05$ . These results support the acceptance that there will be no significant correlation between school absence and reading attainment at kindergarten and grade one.

Additional information from parent interviews was noted. All thirteen children had books and drawing materials in their homes. Only six children could write their name before they went to school. Eleven children had been read to before they went to school. Eight children had been told oral customs and traditions by an adult. Ten children had been to the library before. These findings generate areas for further research which will be discussed in Chapter Five.

## CHAPTER FIVE DISCUSSION AND RECOMMENDATIONS

### 5.1 DISCUSSION

The intent of the present research was to learn more about Musqueam Indian children learning to read and write through to grade one. The only knowledge available before this study was that Musqueam children were an average of four months delayed in their reading achievement when compared with normative populations on the Stanford Diagnostic Reading test at the end of grade one. This gap widened to one year four months delay by grade seven (Anderson 1986). Considering these results it seemed important to learn more about Musqueam children's literacy abilities before they entered school and in the early grades so that teaching methods could be adapted to foster their development.

The findings of the present study need to be examined in several contexts. First, the methodology used in this study needs to be critically examined. Second, the findings need to be related to reading and writing studies in non-Native populations. Third, results need to be compared with studies from cross-cultural research on young children learning to read. Finally, results need to be interpreted within the context of what is known about Native children learning to read and write.

#### 5.1.1 CRITICAL ANALYSIS OF METHODOLOGY

The most salient feature of the present study was that there was a wide variation of performance on all variables



measured. Results need to be interpreted with caution because the experimental population was small (n=13). On the other hand, this number represented the entire population of Musqueam children in kindergarten at the beginning of the study.

High standard deviations were reported on all variables measured. These high deviations are affected by having a small sample (Kirk 1978). They also are influenced by the wide range in scores on each variable measured within the sample population and may confuse interpretation of the results. On the other hand they may support the tenet that reading and writing attainment of Musqueam children may not be merely the product of their being Indian. In other words, all Indian children do not tend to have the same reading and writing abilities.

Weaknesses in the use of Clay's Diagnostic Survey were as follows.

1. The categories listed to code developmental levels of writing samples were not always clearly delineated. The following for example, in the sample of writing displayed in Figure 2, the text should read, "Elizabeth found a ladybug and she gave me a ladybug". When assessing the score for language level this sample was not a simple sentence (4), and it was not two or more sentences (5). There was no provision in the list of categories for coding compound or complex sentences. It was assigned a 5.

FIGURE 2

Writing Sample for Confusion of Analysis Categories

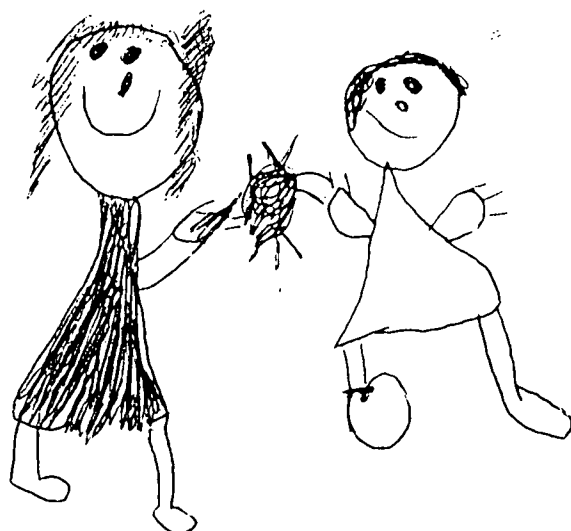
---

ELIZABETH

for a LadG on

She Gg me a

Ld G 



2. The Writing Sample Analysis subtest did not include categories for examining sense of story or levels of emergent writing.
3. The survey was not normed on a large population so comparisons of results need to be interpreted with caution.
4. Reading comprehension was not measured.

On the other hand, it was the best measure available to assess reading and writing levels in one-to-one setting using familiar materials.

There were several weaknesses in using a retrospective interview format to obtain information to calculate an index of parental provision for literacy activities during the preschool years. As reported in Chapter One (p. 11) the use of self reports especially in a retrospective context do not always produce accurate information.

In this context, the frequency reported for literacy practises in the home during the preschool years may not be a valid measure. Moreover, Anderson and Stokes (1984), using ethnographic techniques, reported that frequency of literacy events in the home of their population was spread over a variety of activities and participants and was often connected to social institutions that serviced the home. This type of information is very difficult to obtain through a retrospect interview format.

On the other hand, information obtained using this format generated important areas to examine more extensively. For example, all children had books in the home. Eleven out

of thirteen children had participated in shared bookreading before they went to school. More than half of the children had had an adult orally share some Native customs and traditions. Ten children had been to a library before. All children had attended some form of preschool. Each of these areas needs to be examined using more naturalistic methodology to get a more accurate assessment of the frequency with which these events took place.

Finally, the weakness in assessing school absence was that repeaters in kindergarten only had their second year of absence counted with their next year in grade one. Because the population was small, analysis was not done to assess the effect repeating kindergarten had on reading and writing attainment in grade one. From an informal observation of Diagnostic Survey results, three of the children who repeated kindergarten scored the lowest on survey subtests measured in grade one and none of the remaining three repeaters scored in the highest third of the population in grade one.

In conclusion, though each measure contained weaknesses, information obtained was useful in determining aspects of literacy development that need to be examined more extensively in the Musqueam population.

#### 5.1.2 COMPARISONS WITH NON-NATIVE RESEARCH

Though it was not the intent of this study to compare Musqueam children's reading attainment with the performance of a non-Native population it is interesting to note some comparisons.

If the mean scores from Diagnostic Survey subtests are compared with stanine levels calculated from Clay's (1968) study of 320 urban Maori and European New Zealand children ranging in age from 5.0 to 7.0 years, Musqueam children tend to score within an average range on all measures except the Writing Vocabulary subtests in kindergarten and grade one and the Sight Word subtest given in kindergarten (a range of stanine 4 to 6 was considered average). The mean scores on each subtest and comparative stanine levels are listed below.

TABLE IX

Mean Scores of Musqueam Population as They Relate to Stanine Placement on Diagnostic Survey in Clay (1968) Study

Diagnostic Survey Subtest	Mean (n=13)	Stanine (Clay)
Letter identification (K)	33.00	5
Letter identification (1)	43.92	5
Concepts about print (K)	9.85	4
Concepts about print (1)	15.77	6
Sight Words (K)	1.92	3
Sight Words (1)	7.69	5
Writing Vocabulary (K)	6.00	1
Writing Vocabulary (1)	24.46	3
Dictation (1)	26.70	4

Low performance on the Writing Vocabulary subtest in kindergarten may be related to the finding that only six children could write their name before they went to school. The frequency with which writing activities took place during the preschool years needs to be explored in more depth to ascertain how to best enrich writing performance in school.

Three children in the Musqueam population scored significantly lower than the rest of the subjects (see Appendix C). They have since been placed in special classes. Since special class children are often not included in norming large populations on standardized tests, the mean score on each subtest excluding them (n=10) was compared with Clay's stanine levels. This raised the stanine level of Sight Words in K and Writing Vocabulary in grade one to a level four within an average range. The only other level altered was Letter Identification in grade one which was assigned a six instead of a five.

The assessing of normality within stanine levels of Clay's study also compares favorably with Toohey's (1987) study. She found that the quality of Musqueam children's oral language during share time in grade one classes of the present study experimental schools did not deviate from the overall performance of the class (classes consisted of approximately one-third Musqueam students and two-thirds non-Native children). All of the Musqueam children except one effectively reported sequentially oriented topic centered

or literate stories during sharing time in contrast to non-sequentially oriented topic associated stories often associated with discourse styles in black population during share time (see Chapter One, p. 10).

In summary, Musqueam children's performance on subtests of the Diagnostic Survey tends to vary more within population than between populations when compared on this measure.

### 5.1.3 COMPARISONS WITH CROSS-CULTURAL RESEARCH

It is important to compare the present findings with two prominent studies examining literacy events in a cross-cultural context.

Heath (1980) found literacy practises in the home varied significantly between the three communities she examined. These were a black working class community, a white working class community and homes of middle class teachers who lived close to these communities. On the other hand she found that literacy practises were relatively similar within each community. She also noted that these communities were small in size (approximately 25 to 30 members), were part of a larger community of approximately 40,000, and had a long tradition which held them together (Heath, 1982).

As Musqueam is a small community but part of a large community and has a long existence, one would expect to find generalizable trends in literacy development within its population. The present study's findings do not support this

tenet. This may be due to the types of measures used. On the other hand, in contrast to Heath's communities, Musqueam has been subjected to an enormous amount of change in the last three decades with little support on how to cope with these changes. Some parents of present grade one children had part of their schooling in residential schools which altered their orientation to traditional cultural ways (see Chapter Two, p. 14). Also, since 1967, the government has upgraded the reserve's housing standards but in so doing has altered traditional Musqueam ways of living. These and other changes to the Musqueam community have affected many Musqueam people's orientations to parenting and literacy development so that there now exists a wide variation in these skills within their community. This is also reflected in their children's performance in school (Roberts 1987).

Findings from the present study are more similar to those found by Teale (1986). He examined literacy practises of Anglo, Black and Mexican preschool aged children in San Diego. He found wide variations in literacy practises in the home within each ethnic group and concluded that cultural and social structural patterns in the home influenced literacy practises more than ethnicity. There was a wide variation in scores on the index of parental support for literacy activities in the home during the preschool years in the Musqueam population. It may be that varying cultural practises and social structures within Musqueam homes rather



than being Indian, affected their choice of literacy practises. This area needs to be more extensively examined through ethnographic research techniques.

#### 5.1.4 COMPARISON WITH STUDIES OF OTHER NATIVE POPULATIONS

##### A. PRESCHOOL RESEARCH

Finally results need to be interpreted within the context of research in Indian populations. As with Mayfield's (1981) study of Cowichan Indians, support for literacy during the preschool years varied widely within the population study. Unfortunately her research was not continued to examine the effect of parental support for literacy on later reading and writing attainment. The present study found significant correlations between individual subtests and the Index of Parent Provision for Literacy Activities during the preschool years except for Sight Words at K. These findings need to be cautiously interpreted due to correlations of .65 or lower obtained on seven of nine analyses. However, correlations between IPAR and Letter Identification at K and IPAR and Concepts About Print in Grade One were significant at .77 and .76 respectively,  $p < .001$ .

##### B. EARLY GRADE STUDIES

Several studies examining Indian children's reading abilities have noted that Indian children come from deprived literacy backgrounds (Downing, Ollila and Oliver 1975; Simpson-Tyson 1978). Yet the findings in the present study

note that all Musqueam subjects had books and writing materials in the home and that eleven children had been read to before they went to school. These findings suggest that it may not be deprivation, but rather a different orientation to book-reading that may be experienced in Musqueam Indian homes.

For example, several adults and siblings shared book-reading experiences with the child. These practises may be in contrast to a regular parent-child bookreading format often experienced in middle class non-Native populations (Bruner 1983; Teale 1984; Snow and Ninio 1986).

Finally, the salient feature of the findings in the present study was that there was a wide range in performance levels on all measures within the Musqueam population. It is difficult to compare these findings with other studies of Native children. Downing, Ollila and Oliver (1975) and Simpson-Tyson (1978) did not include standard deviations and ranges in reporting their research. Phillion and Galloway (1968) did and reported high standard deviations in their analysis of scores from group administered Gates Reading Survey but this study examined children in grades four and seven. No studies examined writing behaviors on any writing measure.

#### C. NATIVE LITERACY ORIENTATION STUDIES

Two other areas of Native research need to be related to the findings of the present study. Scollon and Scollon

(1981) indicated that cultural orientations to home backgrounds play a crucial role in developing literacy behaviors. Their research led them to conclude that Native children may have a different orientation to literacy based on their cultural tradition of non-verbal ways of interacting, social rules for interacting in groups, and holistic approaches to tasks which are in conflict with present day classroom literacy events. The wide variation in performance on reading and writing measures in this study challenge these results. The extent to which the Musqueam population retain traditional cultural ways of interacting needs and the effect this type of interaction has on reading and writing behaviors in school needs to be explored more extensively.

Finally, More's (1984, 1986) studies of Indian children in south central British Columbia reported that Native children show relative strengths in holistic processing activities. These results suggested that children may profit by a reading program that emphasizes a sight word approach. On the Sight Word survey subtest Musqueam children scored below average on the subtest administered in kindergarten (stanine 3) but increased to the fifth stanine level when tested in grade one. More research should be done comparing the effects of having a sight word versus phonics approach to reading at these grade levels.

## 5.2 CONCLUSIONS

Though there were several weaknesses in the instruments, the present study revealed some interesting findings. For example, in the past Indian children had been known to score below their classmates on group administered reading achievement tests. Using a different type of measure administered individually, results of the present study indicated that Musqueam Indian children displayed a wide variation in reading and writing abilities to grade one yet scored within an acceptable normative range in these skills when tested on familiar materials except in their knowledge of writing vocabulary in kindergarten and grade one. These results provide support for teaching methodology that takes individual needs into consideration versus programs that teach all children together because they are Native Indian. They also provide support for the use of individually administered reading assessment tools that provide more in-depth information about Indian children's reading and writing performances.

Finally, reading and writing abilities were significantly influenced by a parental support for literacy activities during the preschool years. This support may have a unique cultural orientation around bookreading events and sharing Native customs and traditions. Teaching methodology may have to be adjusted to accommodate unique Musqueam Indian orientations to these activities during the early school years.

### 5.3 RECOMMENDATIONS

Based on the findings of the study, the following research recommendations can be made.

1. As this is the first study in Canada examining reading and writing behaviors (in kindergarten and grade one) as they relate to earlier experiences in an unilingual English urban Native population, it would be interesting to replicate the study on an other unilingual urban Indian population as well as an urban Indian population for whom English is a second language.
2. Future researchers may wish to compare results on the Stanford Diagnostic Reading test at the end of grade one or other appropriate group measure with results from the Diagnostic Survey to compare group versus individual assessment results of reading performance within one population.
3. If the Diagnostic Survey is used on another Indian population it would be useful to add a measure of reading comprehension and a measure of emergent writing levels. It also would be helpful to add categories to clarify Clay's levels for measuring writing abilities on the Writing Sample Subtest.
4. As mentioned earlier, the frequency with which literacy activities took place could not be validly measured in a retrospective interview format. Researchers might wish to try and gain access to Musqueam homes to do an ethnographic study on several children's preschool literacy activities

especially bookreading and sharing of oral customs and traditions to clarify this issue of frequency of literacy events.

5. Further research needs to be conducted at the Musqueam preschool to determine the extent to which children participate in literacy activities that promote development of reading and writing abilities. For example, ten parents reported that their children took out books from the preschool library. Again, the frequency with which this event took place needs to be explored more extensively.

## BIBLIOGRAPHY

- Anderson, A. and Stokes, S. (1984). Social and institutional influences on the development and practice of literacy. In H. Goelman, A. Oberg and F. Smith. (Eds.), Awakening To Literacy. London: Heinemann.
- Anderson, S. (1986). Musqueam Band (Pre-School/Elementary) English Language Enrichment Project. Vancouver, B.C. Discussion paper submitted to Vancouver School Board.
- Bank Street College of Education, (1976). Young Native Americans and Their Families: Educational Needs Assessment and Recommendations. New York: Bank Street College of Education.
- Bereiter, C. and Engelmann, S. (1966). Teaching Disadvantaged Children in the Preschool. New York: Prentice Hall.
- Bissex, G. (1980). GNYS AT WRK. Cambridge: Harvard University Press.
- Boloz, S. and Jenness, D. (1984). The sun is shining in my eyes: the Navajo child enters kindergarten expecting to write and he can. Journal of American Indian Education, (May):25-30.
- Borg, W. and Gall, M. (1979). Educational Research. New York: Longman.
- Bruner, J. (1983). Child's Talk. New York: Norton.
- Burnaby, B. (1980). Languages and Their Roles in Educating Native Children. Toronto: OISE Press.
- Caldwell, B. and Bradley, R.H. (1979). Home Observation for Measurement of the Environment, (HOME). Conway: University of Arkansas.
- Clark, M.M. (1984). Literacy at home and at school: insights from a study of young fluent readers. In H. Goelman, A Oberg and F. Smith (Eds.), Awakening to Literacy. London: Heinemann.
- Clay, M. (1979). The Early Detection of Reading Difficulties. Hong Kong: Heinemann.
- Cook, F. (1986). Summary of Research on Native Education. Victoria: Workshop presented at Fall Primary Teachers' Conference.

- Day, H.D. and Day, K.C. (1979). Item and Factor Analysis of the Concepts About Print Test: Patterns in the Sand. Unpublished paper. Denton: Texas Woman's University.
- Daybreak Star Preschool (1983). Organizing and Operating an Indian Preschool. Seattle: Daybreak Star Press, (Eric Document Reproduction Service No. ED 232 839).
- Dehyle, D. (1983) Measuring success and failure in the classroom: teacher communication about tests and the understanding of young Navajo students. Peabody Journal of Education 61:67-85.
- Department of Indian Affairs and Northern Development (1982). Indian Education Paper: Phase I. Ottawa.
- Downing, J., Ollila, L. and Oliver, P. (1975). Cultural differences in children's concepts of reading and writing. British Journal of Educational Psychology 45:312-316.
- Galloway, C., Mickelson, N. and Burchfield, D. (1968). Orientation Pre-school and Pre-kindergarten Summer Programme for Indian Children. Victoria: University of Victoria.
- Gee, J. (1986). Orality and Literacy: from The Savage Mind to Ways With Words. Tesol Quarterly. (Dec.):719-745.
- Graham, D.M. (1972). A comparison between the Indian and non-Indian children in southern Saskatchewan based on listening comprehension, reading comprehension, auditory discrimination, and I.Q. Dissertation Abstracts International, 72-23804, 894-A.
- Hawthorne, H.B. (1967). A Survey of Contemporary Indians of Canada. Indian Affairs Branch II:105-156.
- Heath, S.B. (1980). The functions and uses of literacy. Journal of Communication 30:123-133.
- Heath, S.B. (1982). Questioning at home and at school. In G. Spindler (Ed.), Doing the Ethnography of Schooling. New York: Holt, Rinehardt and Winston.
- Hewison, J. and Tizard, J. (1980). Parental involvement and reading attainment. British Journal of Educational Psychology 50:209-215.



- Hoffman, R. (1985). School English: A Development Program for Carrier Children in Burns Lake. Burns Lake: Report presented to B.C. School District #55.
- Holdaway, D. (1979). The Foundations of Literacy. Sydney: Ashton Scholastic.
- Huntley, J. (1986). The judgment and public measure of value in academic contexts, Journal of General Education 37: 280-312.
- Johns, J. (1980). First graders' concepts about print. Reading Research Quarterly 15:529-550.
- Kirk, R. (1978). Introductory Statistics. Monterey: Brooks/Cole.
- Kirkness, V.J. (1984). Indian education: the state of the art. Paper presented to Merritt School District, Merritt, B.C.
- Kirkness, V.J. (1985). Indian Education: Past, Present and Future. Paper presented at the Indian Heritage Conference, Walpole Island Reserve, Ontario.
- Labov, W. (1972). The logic of nonstandard English. In Language and Learning Course Team. Language in Education. London: Routledge and Kegan Paul.
- McShane, D. and Mitchell, J. (1979). Middle ear disease, hearing loss and educational problems of American Indian children. Journal of American Indian Education. 7-11.
- Mayfield, M. (1985). Parents, children and reading: helping Canadian native indian parents of preschoolers. The Reading Teacher. 301-305.
- Michaels, S. (1981). "Sharing time": Children's narrative styles and differential access to literacy. Language in Society. 423-442.
- Mickelson, N. and Galloway, C. (1969). Cumulative language deficit among Indian children. Exceptional Children, 36:187-90.
- Moon, C. and Wells, G. (1979). The influence of the home on learning to read. Journal of Research in Reading, 2:53-62.
- More, A. (1984). Okanagan-Nicola Indian Quality of Education Study. Penticton, B.C.: Okanagan Indian Learning Institute.

- More, A. (1985). Indian Students and Their Learning Styles: Research Results and Classroom Applications. Unpublished manuscript, University of British Columbia, Vancouver.
- More, A. (1986). Quality of Education of Native Indian Students in Canada. In H. McCue (Ed.), Selected Papers from First Mokakit Conference. Indian Education Research Association, Vancouver: University of British Columbia.
- More, A. (1987). Personal communication. Vancouver: University of British Columbia.
- National Indian Brotherhood (1973). Indian Control of Indian Education. Paper presented to Assembly of First Nations, Ottawa.
- Nelson, C. and Meyerhoff, R. (1984). Queen Charlotte, Skidegate screening: an intervention to help prepare all children for success in school. In Successes in Indian Education, Victoria: B.C. Ministry of Education.
- Olson, D. (1984). "See! Jumping!". Some oral language antecedents of literacy. In H. Goelman, A. Oberg and F. Smith (Eds.), Awakening to Literacy. London: Heinemann.
- Phillion, W. and Galloway, C. (1968). Indian children and the reading program.. Journal of Reading 12:553-602.
- Point, R. (1987). Personal communication. Former social worker, Musqueam Indian Band.
- Pueblo Infant-Parent Education Project. (1986). Discussion paper available from Pueblo Infant-Parent Education Project, Bernalillo, New Mexico.
- Roberts, M. (1987). Personal communication. Home-school Musqueam worker, Musqueam Indian Band.
- Rosier, P. and Holm, W. (1980). The Rock Point Experience. A Longitudinal Study of a Navajo School Program. Washington, D.C.: Center for Applied Linguistics.
- Scollon, R. and Scollon, S.B.K. (1981). Narrative Literacy and Face in Interethnic Communication. Norwood, N.J.: Ablex Publishing Company.
- Shapiro, J. (1985). The Home-Literacy Environment Index. Unpublished paper. Vancouver: University of British Columbia.
- Simpson-Tyson, A. (1978). Are Native American First Graders Ready to Read? The Reading Teacher. 798-801.

- Snow, C. and Ninio, A. (1986). The contracts of literacy: what children learn from learning to read books. In W. Teale and E. Sulzby (Eds.), Emergent Literacy. Norwood: Ablex Publishing Company.
- Teale, W. (1984). Reading to young children its significance for literacy development. In H. Goelman, A. Oberg and F. Smith (Eds.), Awakening to Literacy. London: Heinemann.
- Teale, W. (1986). Home background and young children's literacy development. In W. Teale and E. Sulzby (Eds.), Emergent Literacy. Norwood, N.J.: Ablex Publishing Company.
- Toohey, K. (1987). Urban Native Children and Sharing Time. Paper presented to Teal Canada Conference, Vancouver, B.C.
- Walker, G. and Kuerbitz, I. (1979). Reading to preschoolers as an aid to successful beginning reading. Reading Improvement 16:149-154.
- Walpole Island Band Office. (1986). Parent Child Support Program, Wallaceburg, Ontario.
- Wells, G. (1985). The Meaning Makers. Toronto: OISE Press.
- Williams, L. (1986). History of native education. Paper presented to Workshop on Native Education, Vancouver School Board Vancouver, B.C.

## APPENDIX A:

Administration and Score Procedures  
for Subtests of the Diagnostic Survey (Clay 1986)

## 1.1 RUNNING RECORD OF READING:

Each child is given 3 passages (varying from 100-200 words in length) to read orally. Everything the child says and does as he tries to read the passage is recorded. Conventions for recording are as follows:

- 1 Every word read correctly is marked with a tick (or check). e.g.

*Bill is asleep.*

- 2 A wrong response is recorded with the text under it.

Child: home  
Text: house

- 3 If a child tries to read a word, all his trials are recorded.

Child: here h- home  
Text: house

- 4 If a child succeeds in correcting a previous error it is recorded as a self-correction.

Child: where we when SC  
Text: were

- 5 If no response is given to a word, a dash is recorded. Insertion of a word is recorded over a dash.

- 6 If the child baulks, unable to proceed because he is aware he had made an error and cannot correct it, or because he cannot attempt the next word, he is told the word. (written T)

Child: home  
Text: house T

- 7 An appeal for help (A) from the child is turned back to the child for further effort before using T as above.

Child: -- A here  
Text: house -- T

- 8 If a child gets into a state of confusion and it is necessary to extricate him he is told to "Try that again" and TTA is recorded.

- 9 Repetition is not counted as error behavior and is recorded as R.

Child:	Here is the home	R	SC
Text:	Here is the house		

- 10 Directional attack on the printed text is recorded with  
arrows. Left to right L R

Responses are scored as follows:

- 1 Credit the child with any correct or corrected words.

Child:   to the shops

Text:     for the bread                  Errors: 2

Score:   x                x

- 2    There is no penalty for trials which are eventually correct.

Child: Where we when were  
Text: were (SC) Errors: 0  
Self-correction: 1  
Score:

- 3    Insertions add errors so that a child can have more errors than there are words in a line.

Child: The train went toot, toot, toot  
 Text: The little engine sighed Errors: 5  
 Score: X X X X X X

- 4 The child cannot receive a minus score for a page. The lowest page score is 0.

- 5 Omissions. If a line or sentence is omitted each word is counted as an error.

If a page is omitted (perhaps because two pages were turned together) they are not counted as errors. Note that, in this case, the number of words on that page must be deducted from the Running Words total before calculation.

- 6 Repeated errors. If the child makes an error (e.g. 'run' for 'ran') and then substitutes this word repeatedly, it counts as an error every time; but substitution of a proper name (e.g. 'Mary' for 'Molly') is counted only the first time.

- 7 Multiple errors and self-corrections. If a child makes two or more errors (e.g. reads a phrase wrongly) each word is an error. If he then corrects all these errors each corrected word is a self-correction.
- 8 Broken words. Where a word is pronounced as two words (e.g. a/way) even when this is backed up by pointing as if it were two words, this is regarded as an error of pronunciation not as a reading error unless what is said is matched to a different word. Such things as 'pitcher' for 'picture' and 'gonna' for 'going to' are counted as correct.
- 9 Inventions defeat the system. When the young child is creatively producing his own version of the story the scoring system finally breaks down and the judgement 'inventing' is recorded for that page, story or book.
- 10 'Try that again'. When the child is in a tangle this instruction, which does not involve teaching, can be given. It counts as one error and only the second attempt is scored.
- 11 Fewest errors. If there are alternate ways of scoring responses a general principle is to choose the method that gives the **fewest** possible errors as in B below.

A

<u>Child:</u>	<u>We went for the bread</u>	
<u>Text:</u>	You went to the shop for the bread	
<u>Score:</u>	X                      X   X        X	Errors: 6

B

<u>Child:</u>	<u>We went</u>	<u>for the bread</u>	
<u>Text:</u>	You went to the shop for the bread		
<u>Score:</u>	X                      X   X        X		Errors: 4

## 2.1 LETTER IDENTIFICATION

A F K P W Z

B H O J U

C Y L Q M

D N S X I

E G R V T

a f k p w z

b h o j u a

c y l q m

d n s x i

e g r v t g

(Clay 1985)

## 2.2 ADMINISTRATION FOR LETTER IDENTIFICATION

The child is asked to recall the name of the letter, the sound the letter makes, and a word that starts like that sound from the chart in section 2.1. Each attempt is recorded. Any one of the three criteria can be used to mark a response correct. Sub-totals for each kind of response, alphabetic, sound, or word beginning similarly are noted to try and determine the child's preferred mode of identifying letters, the letters a child confuses and unknown letters.

## 3.1 CONCEPTS ABOUT PRINT TEST (SAND)

Children are asked questions about a book (SAND or STONES) and are required to respond verbally or by action. A list of the concepts examined are as follows.

- 1 Front of book.
- 2 Print (not picture).
- 3 Points top left at 'I took . . .' (Sand); 'I walked . . .' (Stones).
- 4 Moves finger left to right on any line.
- 5 Moves finger from the right-hand end of a higher line to the left-hand end of the next lower line, or moves down the page.
- 6 Word by word matching.
- 7 Both concepts must be correct, but may be demonstrated on the whole text or on a line, word or letter.
- 8 Verbal explanation, or pointing to top of page, or turning the book around and pointing appropriately.
- 9 Score for beginning with 'The' and moving right to left across the lower line and then the upper line, OR, turning the book around and moving left to right in the conventional movement pattern.
- 10 Any explanation which implies that line order is altered.
- 11 Says or shows that a left page precedes a right page.
- 12 Notices at least one change of word order.
- 13 Notices at least one change in letter order.
- 14 Notices at least one change in letter order.
- 15 Says 'Question mark', or 'A question', or 'Asks something'.
- 16 Says 'Full stop', 'Period', or 'It tells you when you've said enough' or 'It's the end'.
- 17 Says 'A little stop', or 'A rest', or 'A comma'.
- 18 Says 'That's someone talking', 'Talking', 'Speech marks', 'Print' (from computers).
- 19 Locates two capital and lower case pairs.
- 20 Points correctly to both was and no.
- 21 Locates one letter and two letters on request.
- 22 Locates one word and two words on request.
- 23 Locates both a first and a last letter.
- 24 Locates one capital letter.



#### 4.1 READY TO READ SIGHT WORDS

Children are required to read the words below.

I  
Mother  
are  
here  
me  
shouted  
am  
with  
car  
children  
help  
not  
too  
meet  
away

If necessary, children are allowed to practise one word before beginning to read the list. That word is not counted in scoring.

#### 5.1 WRITING SAMPLE

Three samples of children's stories are collected over three consecutive weeks and are rated using the following scoring conventions.

LANGUAGE LEVEL: The number of the highest level of linguistic organization used by the child is recorded:

- 1 Alphabetic (letters only)
- 2 Word (any recognizable word)
- 3 Word group (any two-word phrase)
- 4 Sentence (any simple sentence)
- 5 Punctuated story (of two or more sentences)
- 6 Paragraphed story (two themes)

MESSAGE QUALITY: The number below best representing the child's sample is recorded.

- 1 He has a concept of signs (uses letters, invents letters, uses punctuation).
- 2 He has a concept that a message is conveyed.
- 3 A message is copied.
- 4 Repetitive use of sentence patterns like "Here is a..."
- 5 Attempts to record own ideas.
- 6 Successful composition.

**DIRECTIONAL PRINCIPLES:** The number of the highest rating for which there is no error in the sample of the child's writing is recorded.

- 1 No evidence of directional knowledge.
- 2 Part of the directional pattern is known:  
Either start top left  
or move left to right  
or return down left.
- 3 Reversal of the directional pattern (right to left and return down right).
- 4 Correct directional pattern.
- 5 Correct directional pattern and spaces between words.
- 6 Extensive text without any difficulties of arrangement and spacing of text.

### 6.1 WRITING VOCABULARY

Children are required to write all the words they can for ten minutes. Several prompting behaviors can be used such as, "Do you know how to write is? to? or I?"; "Do you know how to write any children's names?" Each word completed accurately is marked correct. Words written in mirror image are recorded as correct if they are in correct sequence.

### 7.1 DICTATION

Children are read a story. The story is then repeated slowly while the child writes it. The story used was,

I HAVE A BIG DOG AT HOME. TODAY I'M GOING TO TAKE HIM TO SCHOOL.

Examiners are required to record the text below the child's version. Each sound (phoneme) is recorded as one point. The story used is scored as follows.

I	h	a	v	e	a	b	i	g	d	o	g	a	t	h	o	m	e	.
1	2	3	4		5	6	7	8	9	10	11	12	13	14	15	16		

T	o	d	a	y	I	a	m	g	o	i	n	g	t	o	t	a	k	e
17	18	19	20			21	22	23	24	25	25	26				28	29	30

h	i	m	t	o	s	c	h	o	o	l	.
31	23	33			34	35	36	37			

APPENDIX B  
Questionnaire Used to Interview Principal Caregivers  
Section A

S.C. Abramson  
University of British Columbia  
Vancouver

PARENTAL INTERVIEW

Name of child: \_\_\_\_\_

Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

School: \_\_\_\_\_

B.D. \_\_\_\_\_

Date of Interview: \_\_\_\_\_

Age: \_\_\_\_\_ years \_\_\_\_\_ months

Total Possible Score: Section A - 77  
Section B - 23

Most of these questions will be about things that \_\_\_\_\_  
 did in the two years or so before he/she went to school. It  
 would help me a lot if you could answer as accurately as you can  
 and if you are not sure or can't remember something, please tell  
 me. All the information you give me will be treated very  
 confidentially.

Q.1 Does \_\_\_\_\_ live with any  
 brothers or sisters or relatives in your house?

No

Yes

If yes:

Call you tell me their sex or name and ages:

NAME	AGE IN YEARS

Q.2 (i) Did \_\_\_\_\_ ever attend a Daycare or  
 Pre-school before he/she started school?

CODE		
	No, neither	
	Yes, Preschool	1,0*
	Yes, Daycare	1,0*

10

Q.1(ii) For how many years did \_\_\_\_\_ attend a  
Pre-school and/or Daycare school?

<u>CODE</u>	<u>Preschool</u>	<u>Daycare</u>
Less than 1 year	a	a
One year	b	b
Two years	c	c
More than two years	d	d

If yes:

(iii) Can you tell me how many days a week he/she attended?  
IF it was different when he/she was different ages, tell  
me about this.

<u>CODE</u>	Total number of days (or total 1/2 days) per week	
	<u>Preschool</u>	<u>Daycare</u>
When he/she was 1	_____	_____
When he/she was 2	_____	_____
When he/she was 3	_____	_____ 1-5*
When he/she was 4	_____	_____ 1-5*
When he/she was 5	_____	_____

Q.3 Young children play with all sorts of toys and games.  
I'd like you to think about the things that \_\_\_\_\_  
used to play with, at home (or possibly at Preschool or  
Daycare) during the two years or so before he/she started  
school. On the card you can see different answers to my  
question about how much certain toys and games were  
played with. As I read out my list please tell me the  
answer you think is the right one.

On card to be handed to mother:

Nearly every day  
About once a week  
About once a month  
Less than once a month  
Never, as far as I can remember

Read list and circle responses:

	How much did he/she:-	Nearly ev. day	Once week	Once mth.	Less once mth.	Never	
(i)	Play with building toys like Lego?	4	3	2	1	0	
(ii)	Play with soft toys like teddy?	4	3	2	1	0	
(iii)	Draw with pencils, chalks, crayons or felt pens?	4	3	2	1	0	1-4*
(iv)	Play with a bike or tricycle?	4	3	2	1	0	
(v)	Make things from scrap materials, wood, card, etc.	4	3	2	1	0	
(vi)	Look at comics?	4	3	2	1	0	1-4*
(vii)	Play with toys that make a noise like humming tops, drums?	4	3	2	1	0	
(viii)	Write or pretend to write with pencils, crayons, felt pens or chalk?	4	3	2	1	0	1-4*
(ix)	Play with toy cars or trains?	4	3	2	1	0	
(x)	Look at books?	4	3	2	1	0	1-4*
(xi)	Do jig-saws or other kinds of puzzles?	4	3	2	1	0	
(xii)	Play on swings or a slide?	4	3	2	1	0	
(xiii)	Play games like 'snakes and ladders' or others like this?	4	3	2	1	0	
(xiv)	Listen to stories being read?	4	3	2	1	0	1-4*
(xv)	Play with toy soldiers or toy animals?	4	3	2	1	0	
(xvi)	Tell stories?	4	3	2	1	0	1-4*
(xvii)	Play with other children outside with no adult organizing play?	4	3	2	1	0	

PROBE 1

(iii) Drawing

Can you tell me anything he/she used to draw a lot?

PROBE 2 Listen to stories

- (a) Can you tell me who used to read to him/her?

CODE (everything applicable)

mother

father

brother/sister

(Prompt if necessary)

other(s)

Anyone else)

specify \_\_\_\_\_

- (b) Did he/she like being read to?

Yes

No

- (c) When \_\_\_\_\_ was being read a favorite book,

i) did he listen quietly?

did he participate in reading activity?

ii) did the adult reading ask questions about the story while  
he/she was reading to \_\_\_\_\_?PROBE 3 Story telling

1-0\*

- (a) Can you tell me who used to tell him/her stories?

CODE (everything applicable)

mother

father

brother/sister

(Prompt if necessary)

other(s)

Anyone else)

specify \_\_\_\_\_

- (b) Were there any stories that were told regularly?



Q.4 Can you tell me which of these things \_\_\_\_\_  
had before he/she went to school?

Check

Tricycle or bicycle	
Teddy bear	
Blackboard	1,0*
Bucket and shovel	
Books	1,0*
Crayons, pencils or felt pens	1,0*

If books checked, ask:

About how many books did \_\_\_\_\_ have as his/her own?

More than 20

5-20

Less than 5

Q.5 Young children ask their parents many different things.  
Sometimes they ask questions about things. Sometimes they ask  
for help with things they are doing. I am going to mention a few  
of these things and I want you to tell me, from the card we used  
before, about how often \_\_\_\_\_ asked  
these kinds of questions. If you can't remember, please tell me.

On card to be handed to mother:

Nearly every day

About once a week

About once a month

Less than once a month

Never, as far as I can remember

Read list and circle responses:

How much did he/she:-		Nearly ev.day	Once week	Once mth.	Less once mth.	Never	
(i)	How things like T.V., car, worked?	4	3	2	1	0	
(ii)	What words on boxes or in books were?	4	3	2	1	0	1-4*
(iii)	For help with games or puzzles?	4	3	2	1	0	
(iv)	For stories to be read to him/her?	4	3	2	1	0	1-4*
(v)	You to fix broken toys?	4	3	2	1	0	
(vi)	What words meant?	4	3	2	1	0	1-4*
(vii)	You to draw things or messages for him/her?	4	3	2	1	0	1-4*
(viii)	How to write words?	4	3	2	1	0	1-4*

Q 5 Probe as follows for responses in the 3/4 cells to any of the following questions:

Probe 1 (ii) Words on box/in books

Can you tell me about any occasions when he/she asked about words on boxes or in books?

Probe 2 (viii) Write words

Can you tell me about any occasions when he/she asked how to write words?

Q.6 Can you tell me if \_\_\_\_\_ had been to any of these places before he/she started school?

A swimming pool	Yes	
	No	
The movies	Yes	
	No	
A library at the preschool or a public library?	Yes	1-0*
	No	
A zoo	Yes	
	No	

If yes to library, ask:

(ii) When he/she went to a library who were books for?

CODE

For child him/herself?

Other child(ren)

Father

(Prompt, if necessary

Mother

Anyone else?)

Other (specify)

---

(iii) If (a) - books borrowed for child ask:

How often was \_\_\_\_\_ taken to a library?

CODE

More than once a week 4\*

About once a week 3\*

Every 2-3 weeks 2\*

Less than every 2-3 weeks 1\*

Cannot remember 0\*

Q.7 I would like you to tell me which of these things \_\_\_\_\_  
could do before he/she started school:

	Could he/she:	CHECK YES
(i)	Zipper his/her own jacket?	
(ii)	Recognize his/her own name if it was printed?	1,0*
(iii)	Ride a bike?	
(iv)	Write his/her own name?	1,0*
(v)	Read any words (except own name)?	1,0*
(vi)	Tell you the names of any letters like a,b,c?	1,0*
(vii)	Count up to ten?	
(viii)	Write any words apart from own name?	1,0*
(ix)	Swing by himself/herself?	
(x)	Tell a story or recite 5 nursery rhymes?	1,0*
(xi)	Write a message to someone?	1,0*

If yes to (ii), (iv), (v), (vi), (viii), or (x), ask the appropriate questions below:

How do you think \_\_\_\_\_ learned

	Taught by:			
	self	parent	sibling	other specify
To recognize his/her own name?	1	3	3	3
To write his/her own name?	1	3	3	3
Read some words?	1	3	3	3
Write some words?	1	3	3	3
Some letters of the alphabet?	1	3	3	3
Tell stories or recite 5 nursery rhymes	1	3	3	3
To write a message to someone?	1	3	3	3

Q.8 Is there anything else \_\_\_\_\_ used to do  
before he/she started school that you think I would be interested  
in?

Q.9 What do you consider as a successful education level for your  
child?

completion of grade 7 a

completion of grade 12 b

completion of further training following high school? c

Other

Thank you for your help.

SECTION B

Total Possible Score 23

Child's Name: \_\_\_\_\_ Birthdate: \_\_\_\_\_  
 Child's Sex: M \_\_\_\_\_ Language(s) of the Home: (1) \_\_\_\_\_  
                   F \_\_\_\_\_ (in order of frequency of use) (2) \_\_\_\_\_  
 Older children (age and sex): \_\_\_\_\_

DIRECTIONS: PLEASE RESPOND TO EACH ITEM BY PLACING A CHECK ( ) MARK  
 ON APPROPRIATE LINE OR LINES.

1. Approximately how many books do you have in your home?

Adult Books	0 - 2	_____
	3 - 10	_____
	11 - 25	_____
	26 - 50	_____
	over 50	_____
Children's Books	0 - 2	_____
	3 - 10	_____
	11 - 25	_____
	26 - 50	_____
	over 50	_____

2. Approximately how many magazines are purchased or subscribed to  
 on a monthly basis in your home?

Adult magazines	0	_____
	1	_____
	2	_____
	3	_____
	over 3	_____
Children's magazines	0	_____ 0*
	1	_____ 1*
	2	_____ 2*
	3	_____ 3*
	over 3	_____ 4*

3. Which of the following reference-type books are in your home?

Dictionary	_____
Atlas	_____
Encyclopedia	_____
"How To" Books (cook books, home repair, etc.)	_____

4. Which best describes how often your child might see reference-type books (see previous question) being used in your home?

Never	_____
Rarely	_____
Sometimes	_____
Often	_____
Daily	_____

5. Please indicate how often your child observe his/her parents reading on a weekly basis.

Never	_____
1 - 2 times	_____
3 - 4 times	_____
5 - 6 times	_____
Daily	_____

6. Please indicate how often your child is read to, at home, on a weekly basis.

Never	_____	0*
1 - 2 times	_____	1*
3 - 4 times	_____	2*
5 - 6 times	_____	3*
Daily	_____	4*

7. At what age did you begin reading to your child?

4+ years	_____	0*
3 - 4 years	_____	1*
2 - 3 years	_____	2*
1 - 2 years	_____	3*
0 -1 year	_____	4*

9. Does your child try to read? YES \_\_\_\_\_ NO \_\_\_\_\_

If you checked yes, please respond to the next statement. Check the statement or statements which describe your child's attempts to read.

Pretends to read storybooks \_\_\_\_\_  
 Recognizes a few words in books \_\_\_\_\_  
 Reads signs, labels, etc. (cereal box labels, supermarket names etc.) \_\_\_\_\_  
 Reads his/her own storybooks \_\_\_\_\_ 1,0\*

10. Does your child receive books as gifts for holidays or birthdays?

Never \_\_\_\_\_  
 Rarely \_\_\_\_\_  
 Sometimes \_\_\_\_\_  
 Often \_\_\_\_\_  
 Always \_\_\_\_\_

11. Which of the following types of materials are in your home and used by your child?

Typewriter or computer (play or real) \_\_\_\_\_ 1,0\*  
 Paper or pencils (something to write with) \_\_\_\_\_  
 Blackboard and chalk (feltboard) \_\_\_\_\_  
 Colouring book and crayons or something to colour with \_\_\_\_\_

12. How often does your child observe his/her parents writing on a weekly basis?

Never \_\_\_\_\_  
 1 - 2 times \_\_\_\_\_  
 5 - 6 times \_\_\_\_\_  
 Daily \_\_\_\_\_

13. Does your child try to print, write and/or draw? YES \_\_\_\_\_ NO \_\_\_\_\_

If you checked yes please respond to the next statement. Check the item which best described what your child does.

Tells a story about a picture he/she drew, painted or coloured \_\_\_\_\_ 1\*  
 Scribbles in trying to write a message \_\_\_\_\_ 1\*  
 Writes letters that mean something to him/her \_\_\_\_\_ 1\*  
 Puts letters together to make words and/or tries to write messages \_\_\_\_\_ 1\*



14. Which of the following types of print in your home are able to be seen by your child?

Letters of the alphabet (wallpaper or charts) \_\_\_\_\_

Manipulative letters (magnetic letters or blocks) \_\_\_\_\_

System of messages (bulletin board, refrigerator door) \_\_\_\_\_

Lists (shopping, words, etc.) \_\_\_\_\_

15. What types of writing do you do that your child is able to see you do?

Paying bills, record keeping, etc. \_\_\_\_\_

Making lists, writing recipes, etc. \_\_\_\_\_

Keeping a diary, writing stories, poems, etc. \_\_\_\_\_

Writing letters, messages, etc. \_\_\_\_\_

16. How frequently do you or another member of your family write/print with your child on a weekly basis?

Never \_\_\_\_\_ 0\*

1 - 2 times \_\_\_\_\_ 1\*

3 - 4 times \_\_\_\_\_ 2\*

5 - 6 times \_\_\_\_\_ 3\*

Daily \_\_\_\_\_ 4\*

17. On average, how many hours a day does your child look at books or is read to, or writes/draws, colours?

\_\_\_\_\_

18. On average, how many hours a day does your child play quiet games?

\_\_\_\_\_

19. On average, how many hours a day does your child watch television and play video/computer games?

T.V. \_\_\_\_\_

Video/Computer Games \_\_\_\_\_

20. On average, how many hours a day does your child play actively (things other than quiet or video games like sports, tag, jumping rope, etc.)?

\_\_\_\_\_

THANK YOU FOR YOUR PARTICIPATION.

## APPENDIX C

### Raw Scores from Subtests of the Diagnostic Survey, Index of Parental Provision for Literacy Activities and Total School Absence

#### Codes for Interpretation of the Scores

Raw Scores for each Subject on subtests of the Diagnostic Survey at kindergarten and grade one, as well as the total school absence and index of parental support for preschool literacy activities are displayed in Table I. Each category will have an abbreviated code as follows:

SUB:	Subject number and age at beginning of study.
TPOS:	Total possible score.
LIDK:	Letter Identification, kindergarten.
LID1:	Letter Identification, grade one.
CAPK:	Concepts about Print, kindergarten.
CAP1:	Concepts about Print, grade one.
SWK:	Ready to Read Sight Words, kindergarten.
SW1:	Ready to Read Sight Words, grade one.
WVK:	Writing Vocabulary, kindergarten.
WV1:	Writing Vocabulary, grade one.
DIC1:	Dictation, grade one.
TSA:	Total School Absence Sept. (K) to Mar. 1 (grade 1)
IPAR:	Index of Parental Support for Literacy Activities.
TSSI:	Total score on <u>Diagnostic Survey</u> , grade 1.

## 3.1 Raw Scores

TPOS												
	54	54	24	24	15	15		37		100		
SUB.	LIDK	LIDI	CAPK	CAPI	SWK	SWI	WVK	WVI	DICI	TSA	IPAR	TSSI
01	46	52	8	17	1	4	1	10	11	52.5	83	94
02	35	52	9	17	1	6	4	24	27	18	75	126
03	23	48	9	13	0	10	5	37	15	30.5	47	123
04	1	34	3	14	0	2	0	5	5	59.5	34	60
05	45	53	15	19	2	12	12	18	27	55.5	72	129
06	21	49	4	9	0	1	0	2	12	14	47	73
07	50	53	13	16	4	12	3	37	33	14	49	151
08	53	54	13	24	0	13	6	54	35	8	78	180
09	7	15	4	9	0	0	1	1	0	22	56	25
10	53	54	19	24	13	15	29	56	37	24	85	186
11	52	53	14	18	3	15	11	29	37	12.5	69	152
12	39	52	10	17	1	10	6	31	33	30	81	143
13	5	2	7	8	0	0	0	1	0	21.5	40	11

## APPENDIX D:

Value and Frequency of Scores from  
Diagnostic Survey

SUBTEST	VALUE	FREQUENCY	SUBTEST	VALUE	FREQUENCY
LIDK	1	1	LID1	2	1
	5	1		15	1
	7	1		34	1
	21	1		48	1
	23	1		49	1
	35	1		52	3
	39	1		53	3
	45	1		54	2
	46	1			
	50	1			
	52	1			
	53	2			
CAPK	3	1	CAP1	8	1
	4	2		9	2
	7	1		13	1
	8	1		14	1
	9	2		16	1
	10	1		17	3
	13	2		18	1
	14	1		19	1
	15	1		24	2
	19	1			
SWK	0	6	SW1	0	2
	1	3		1	1
	2	1		2	1
	3	1		4	1
	4	1		6	1
	13	1		10	2
				12	2
				13	1
				15	2

SUBTEST	VALUE	FREQUENCY	SUBTEST	VALUE	FREQUENCY
WVK	0	3	WV1	1	2
	1	2		2	1
	3	1		5	1
	4	1		10	1
	5	1		18	1
	6	2		24	1
	11	1		29	1
	12	1		31	1
	29	1		37	2
DIC1				54	1
				56	1
	0	2			
	5	1			
	11	1			
	12	1			
	15	1			
	27	2			
	33	2			
	35	1			
	37	2			

## APPENDIX F

Summary of Information  
Obtained from Parent Interview Questionnaire

Materials																			
Sub. Provided	Activities Observed	Activities Participated																Extra	
	M B DM TC L LB N WN R NR WM B S NS VL RL WMP P E																		
01	X X X - X X X X X X X X+ X X+ X X X X 12																		
02	- X X - X X X - - X X X+ X X+ X - X X 12+																		
03	- X X - X X X - X - X - X - X - X X 12+																		
04	- X X - X X X X X - X - - - - X X X 12+																		
05	X X X X X X X - X X X X+ X - X X X X 12+																		
06	- X X - X - X - - - X X+ X X+ X X - X NR																		
07	- X X - X X X X - - X X+ X X+ X - X X 12+																		
08	- X X X X X X X X - X X+ X X+ X X X X 12+																		
09	- X X - X X X - X X X X+ X - X X X X 12+																		
10	- X X X X X X X X X X X X+ X X+ X X X X 12+																		
11	X X X - X X X - X X - X+ X X+ X X X X 12+																		
12	- X X X X X X X X X X X X+ X X+ - X X X 12+																		
13	- X X - - - - - X - X+ X - - - - X 12+																		

X+ = more than one adult participating in activity.

Materials Provided in the Home

Children's magazine subscriptions - M  
Books - B  
Drawing Materials, crayons, chalk, blackboard - DM  
Typewriter, Computer - TC

Activities Observed by Principal Caregiver

Look at Books - LB  
Recognizing Letters of alphabet - L  
Recognizing name in print - N  
Writing name - WN  
Reading on own - R  
Reciting nursery rhymes - NR  
Writing messages to someone - WM

Activities in which Child & CaregiverParticipated

Bookreading - B  
Storytelling - S  
Native Storytelling - NS  
Visits to Library - VL  
Reading labels on boxes, etc. - RL  
Writing messages - WMP

Extra

Preschool (daycare) attendance - P  
Educational aspirations - E