

IMMIGRANT AND REFUGEE STUDENTS' ACHIEVEMENT IN  
VANCOUVER SECONDARY SCHOOLS: AN EXAMINATION OF THE  
COMMON UNDERLYING PROFICIENCY MODEL

by

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## ABSTRACT

The purpose of this study was to investigate the effect of first language literacy and educational backgrounds on literacy and academic performance in a second language and, to learn more about students' perceptions of their linguistic, academic and social development in schooling in which the language of instruction is English.

Fifty-five students were selected from seven high schools in the Vancouver School District, Vancouver, British Columbia. Information about students' first language (L1) literacy and educational experiences, including previous instruction in English was obtained on arrival. Proficiency in second language (L2) reading and first and second language writing was observed on arrival and in the spring of 1996, after a minimum of four years of English-only schooling, using standardized and holistic measures. Grade Point Averages (GPA) were calculated for students' achievement in four academic subjects. Analysis by ANOVA showed a significant difference in the length of time spent in ESL due to years of previous English study ( $F(7,43) = 4.26, p = .0012$ ). Pearson product-moment correlation coefficients were calculated to observe relationships between L1 literacy and time spent in ESL, L1 education and time spent in ESL, and L2 reading and writing and achievement in English, social studies, science and math. Significant relationships were found between proficiency in L2 reading and writing and academic achievement, as measured by GPA. Significant findings were also obtained for L1 literacy and time spent in ESL ( $r = -.33, p < .05$ ). Orthographic similarity was not a predictor of L2 reading, as measured on a standardized test of reading comprehension ( $t = .105, p = .747$ ).

Results of the study showed that L1 literacy development, L1 schooling, and previous English study enhanced acquisition of English, as measured by time spent

in ESL. The researcher concluded that L1 literacy and education are important factors affecting the rate and level of L2 proficiency attained and academic achievement. Implications from findings suggest that in schooling where the language of instruction is English, students who have not acquired literacy skills in L1 have different needs and face a greater challenge than students who are literate in L1.

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This thesis is dedicated to ESL students:  
past, present and future.

## CHAPTER ONE

### INTRODUCTION

#### **Statement of the Problem**

Immigrant and refugee students enrolling in many North American schools face the daunting task of learning English at the same time they need to use English to learn the curriculum. Learning to read in a second language (L2) is vital to the academic success of English as a second language (ESL) students. Indeed, research findings show that ESL students commonly read at a level two or more years behind their native English speaking peers (Cummins, 1981a; Early 1989; Gunderson, 1995a). Much of what we know about the process of learning to read in L2 is adopted from research findings of studies of first language (L1) reading. Such research does not account for the diversity of nonnative English speakers' backgrounds. In particular, L1 literacy and educational variables present a composite that affects the process of learning to read in L2 and, consequently, academic success. However, there is little research that examines the role of background variables in L2 reading.

#### **Background of the Problem**

Over the past two to three decades much research has been devoted to developing models or theories of L2 acquisition. These range from linguistic analyses of the language acquisition process, to factors that affect the learner, to language socialization. Theories of L2 academic development are complicated by the number and complexity of factors involved. Learning to read in L2 is critical to ESL students' academic success, print being the medium through which most

academic information is conveyed. Students' L1 literacy and their educational background experiences are important factors affecting the rate and length of time needed to acquire proficiency in L2 and to succeed in school, intellectually and socially. However, the relationship between ESL students' L1 literacy and educational backgrounds and their reading achievement in L2 and school success is not well understood.

Research has produced findings that identify and describe the effect of several factors on L2 acquisition and school success. For instance, findings from a study of 1,548 middle to upper class ESL learners (Collier, 1987) investigating the effect of age on arrival (AOA) on academic achievement suggest that younger learners (ages 5-7) have a definite advantage over older learners (ages 12 - 15). Children arriving between the ages of eight and eleven showed the highest prospect for achieving linguistically and academically in L2. A second major influencing factor is the length of time a student resides in the L2 environment. It takes ESL students on average, from five to eight years (Cummins, 1981a; Collier, 1987) to acquire proficiency in English sufficient to allow them to compete with their native English speaking peers. These two studies, now considered classics in the field, neglect to account for students' literacy or educational histories, however. More recent findings show that the number of years of schooling in L1 and students' cognitive development in L1 affect the length of time it takes ESL students to achieve grade level performance (Collier, 1994).

Students' prior education (Coelho, 1994; Cummins, 1979), L1 literacy (Piper, 1993; Robson, 1981; Sinclair, 1995; Weinstein, 1984) and previous English instruction (Coelho, 1994; Gunderson, 1995b) are theoretically predictive of successful L2 acquisition and academic achievement. The research delineating the role of these factors in the L2 acquisition process is, however, ambiguous. A student's proficiency in L1 is very important - particularly proficiency in the kind of

language used in school: academic language proficiency (Cummins, 1979). Students whose L1 academic language proficiency is well developed require less time to acquire academic linguistic proficiency in L2 than students whose facility with L1 academic language is not well developed. This interdependence of L1 and L2 academic language suggests the positive effects of L1 education on L2 acquisition and academic success. Research has also shown that the ability to read in L1 exerts a powerful influence on L2 acquisition. In fact, research findings of a study of adult L2 learners showed that literacy in L1 was a more significant factor than formal education in predicting the success Hmong native speaking adult learners had in acquiring English (Robson, 1981; Weinstein, 1984). Furthermore, some researchers believe that the degree of similarity between L1 and L2 contributes to the ease or speed with which students become proficient in L2 (Adams, 1980 in Bernhardt, 1991; Genesee, 1979 in Cummins 1979). Others (Piper, 1993) contend that "what is important is not the language of literacy but the fact of it" (p. 310).

Despite extensive studies of L2 acquisition, research does not provide a clear picture of the developmental nature of L2 reading. In addition, it does not explain the predictive value of students' literacy and educational backgrounds in their L1. An understanding of the role of L1 literacy and educational variables on L2 reading acquisition is critical to developing a L2 literacy model. The purpose of this study is, therefore, to contribute to the development of such a model. In this investigation I propose to:

- 1) examine the relationship between years of schooling in L1 and the length of time spent in ESL classes;
- 2) examine the effect of previous English instruction on the length of time spent in ESL classes;

- 3) investigate orthographic similarity/difference between L1 and L2 and the nature of L2 reading development;
- 4) observe changes in the development of L2 reading (over four to seven years);
- 5) describe ESL students' reading habits in L1 and L2; and
- 6) identify and describe some factors restricting academic achievement in L2, as perceived by ESL learners.

### **Hypotheses**

#### **Previous Education in L1:**

Previous Education in L1 hypotheses include:

1) students who have been educated in L1 prior to immigrating will spend less time in ESL classes than students whose L1 education has been unduly interrupted or who have had no previous schooling in L1; 2) students who have had previous English instruction in their home country prior to enrolling in an L2 only program spend less time in ESL classes than students who have had no previous English instruction.

#### **L1 Literacy:**

L1 Literacy hypotheses include: 1) L2 reading performance of students who were literate in L1 at the time of arrival and have maintained literacy in L1 will be superior to that of students who have not maintained L1 literacy skills; 2) orthographic similarity is not a predictor of L2 reading achievement.



## **L2 Literacy and Academic Achievement**

It is proposed in this study that students who have well-developed expressive language skills will be more successful academically than students who have not developed expressive language skills.

It is predicted in this study that L1 schooling is a more powerful predictor than L1 literacy, followed by previous English instruction and lastly, orthographic similarity or difference.

### **Definition of Terms**

The following definitions apply to the terms used in this study:

**age on arrival**

the student's age at the time s/he arrives in the host country.

**(basic) interpersonal language skills (BICs)**

that language used in face-to-face conversation, including oral fluency and phonology.

**(cognitive) academic language proficiency**

context-reduced, cognitively demanding language commonly used in instruction and school texts, including syntax, morphology, vocabulary and reading comprehension

**Common Underlying Proficiency (CUP)**

those aspects of an individual's first and L2 that are common or shared, usually referring to cognitively demanding academic or literacy-related knowledge.

**dominant language**

the language in which the student is most fluent. Commonly the

language used most frequently by the individual. For example, a Vietnamese student may have learned Chiu Chow first, followed by Vietnamese and then English. She seldom speaks Chiu Chow; she speaks Vietnamese with her family, most relatives and her friends. She speaks English only at school. Vietnamese is her dominant language.

**English as a second language (ESL)**

refers to English when it is not the first language learned. Indeed, English may be the third or fourth language a student learns.

**English as a second language student**

a student recognized by the Vancouver School Board as speaking a language other than English in the home and, or whose academic program consists of 50% or more ESL courses.

**English-only schooling (L2 schooling)**

schooling in which the language of instruction is English

**first language (L1)**

chronologically the first language learned.

**length of residence**

the time an ESL student has resided in the host country.

**L2 schooling**

see English-only schooling

**LEP**

Limited English Proficient: the American equivalent for the Canadian term English as a Second Language

**literacy**

refers to reading and writing.

**native language**

the language spoken in the home before immigrating to Canada

**primary language**

see native language

**second language (L2)**

in this study, L2 refers to English.

**second language acquisition**

the process of acquiring English when English is not the native language.

**Limitations of the Study**

This study observed the reading development and academic achievement of fifty-five ESL students in the Vancouver, British Columbia School District. All participants were between the ages of eight and twelve years at the time they enrolled in the Vancouver School District. All participants had attended schools in this district for four to seven years. The sample selected is reflective of students who meet these criteria. Generalizations to student populations from different districts and with different AOA and LOR requires further research and should be made with caution.

## CHAPTER TWO

### REVIEW OF THE LITERATURE

#### Introduction

In this chapter I develop the notions introduced in chapter one. First, I review the literature and research studies related to L2 literacy development. Second, I address the major factors influencing ESL students' academic achievement in English (L2) schooling. Finally, I propose a need for tracking studies to inform a model of L2 reading development.

The most critical task facing school-age L2 learners in the United States and Canada is learning to read in English (Collier, 1987; Gunderson, 1995a,b; Verhoeven, 1990; Wong-Fillmore, 1983). Learning to read in English is central to L2 learners' academic success. "Language is the focus of every content-area task, with all meaning and all demonstration of knowledge expressed through oral and written forms of language" (Collier, 1987). To date, theories of L2 reading instruction are based largely on theories and models of the L1 reading process. Grabe (1991) suggests that "A primary goal for ESL reading theory and instruction is to understand what fluent L1 readers do, then how best to move ESL students in that developmental direction" (p. 378). This is an oversimplification of a highly complex process, however. There are many factors that affect the process of learning to read in L2 that distinguish L2 readers from L1 readers.

Second language learners represent an array of cultural, linguistic and educational experiences, all of which affect learning to read in L2. The most salient characteristic distinguishing L2 learners from L1 learners is that L2 learners have already developed some level of oral proficiency in their L1 and possibly literacy

skills as well. Learners' knowledge of their L1 greatly affects the process of acquiring L2. Research shows that cognitive development and the level of proficiency attained in L2 is partially a function of L1 proficiency (Collier, 1989; Cummins, 1979, 1981; Skutnabb-Kangas & Toukomaa, 1976). Learners with well-developed L1 cognitive abilities appear to learn at a faster rate and attain higher levels of proficiency in L2 than learners who have not acquired sufficient levels of proficiency in L1. The Threshold Hypothesis (Cummins, 1979, 1986) holds that "there may be threshold levels of linguistic competence which bilingual children must attain in their first and second languages both in order to avoid cognitive disadvantages and to allow the potentially beneficial aspects of becoming bilingual to influence cognitive functioning" (p. 6). This hypothesis grew mainly from findings of a study of Finnish migrant workers' children's cognitive development (Skutnabb-Kangas & Toukomaa, 1976). Researchers observed that older children were more effective L2 learners than younger children. Older children whose proficiency in L1 was well developed at the time they were exposed to L2 acquired L2 faster and attained higher levels of L2 proficiency than children whose L1 was not well developed at the time they began learning L2. Furthermore, children whose proficiency in L1 was limited at the time intensive exposure to L2 began and did not continue to develop L1 during the L2 acquisition process, did not develop cognitive skills sufficiently to cope with school tasks that required facility with abstract or cognitively demanding language. The authors concluded that the extent to which the mother tongue had been developed prior to contact with L2 was strongly related to how well L2 was learned.

Continued cognitive development in L1 during L2 acquisition enhances cognitive growth and high levels of proficiency in L2. Lambert (1977) describes the positive effect on learning L2 of continuing to develop proficiency in L1 as additive bilingualism and the negative effect on cognitive growth and the level of

proficiency attained in L2 resulting from insufficient L1 development as subtractive bilingualism. The notion of additive and subtractive bilingualism is delineated by the two thresholds of the Threshold Hypothesis. The first threshold is that below which cognitive growth is impeded without L1 linguistic development. The second threshold is that above which cognitive development is enhanced. Therefore, the Threshold Hypothesis explains the advantages to bilingual learners of maintaining L1 development while acquiring L2 and cautions of possible cognitive deficits that may result from learning L2 at the expense of L1, i.e., replacing L1 with L2, proposing that the level of proficiency developed in L1 greatly affects the propensity for acquiring L2 and overall cognitive development. The relationship between L1 and L2 linguistic ability is explained by the Linguistic Interdependence Hypothesis (Cummins, 1979; 1986) and the Common Underlying Proficiency Model (Cummins, 1986).

### **Linguistic Interdependence Hypothesis**

The Linguistic Interdependence Hypothesis (LIH) predicts that cognitive and linguistic development in L2 is partially a function of the level of cognitive development in L1 (Cummins, 1979, 1986; Skutnabb-Kangas & Toukomaa, 1976). The LIH claims that there is a dimension of language proficiency that is common to, or interdependent across languages. That is, there are features or aspects of language proficiency that are interdependent and can transfer across linguistic systems. Thus, the LIH posits that well-developed proficiency in L1 theoretically enhances the level of proficiency and cognitive development attained in L2.

The LIH promotes the continued development of L1 proficiency while acquiring L2. Cummins hypothesizes that there are positive advantages to L2 learners who continue to develop linguistic ability (as used by Cummins, 1981b, to refer to "the ability to use language as an instrument of thought, and includes such

things as reading skills, vocabulary and concept knowledge") in L1 while acquiring L2. The empirical support for this hypothesis is based largely on the academic performance of students enrolled in bilingual programs. Research findings show that students enrolled in bilingual programs where the language of instruction is in L2 (i.e., the language of instruction is different from the home language) did as well, or better, on tests written in L1 than their peers receiving instruction in their native language (Swain, 1986; Swain & Lapkin, 1982). Conversely, Wong-Fillmore (1983) found that "the use of L1 enhances conceptual development, even when it is tested through the medium of L2." These findings suggest that cognitively demanding concepts learned in one language transfer to other languages with no deleterious effects to either language, confirming the LIH.

### **Common Underlying Proficiency Model**

The Common Underlying Proficiency (CUP) model illustrates the concept of interlingual transfer posited by the LIH. The CUP model provides a framework illustrating the transfer of some aspects of language proficiency but not others. Inherent in the CUP model is Cummins' construct of language proficiency (1979, 1981a,b,c, 1984, 1986). Cummins (1986) notes that "not all aspects of language proficiency [are] related to literacy" (p. 29) and therefore, he posits a construct of language proficiency that comprises two categories of proficiency: Basic Interpersonal Communicative Skills and Cognitive Academic Language Proficiency (Cummins, 1979, 1981a,b,c, 1984, 1986). The former considers the "cognitively undemanding manifestations of language proficiency used in interpersonal situations"; the latter accounts for "literacy-related language skills."

The first category of language proficiency, Basic Interpersonal Communicative Skills or BICs, refers to the oral aspects of language including phonology and fluency, used to communicate in context-embedded situations such

as face-to-face conversation. The second category, Cognitive Academic Language Proficiency (CALP) refers to aspects of language proficiency used in context-reduced situations in which interlocutors rely mainly on linguistic cues to convey meaning. Edelsky et al. (1983) contest the BICs/CALP construct of language proficiency claiming that it has discriminating consequences. They believe that "proficiency in using authentic and varied texts is an extension of communicative competence, not a separate entity, that any variety used interpersonally has the potential for *becoming* more varied and also useful for literacy through appropriate educational (or, occasionally, societal) activity" (p. 12, emphasis in original). Edelsky et al. claim that Cummins' false distinction of two categories of language proficiency does not measure students' linguistic proficiency in L2, rather it measures their familiarity with school - in any language - and their knowledge of the culture of testing. Despite occasional criticism, however, Cummins' theoretical model of two categories of language proficiency has become widely accepted in the field of bilingual education and has profoundly influenced programs and policy concerning the expectations of how long students require language support and the care with which test results should be interpreted.

Research (Collier, 1987; Cummins, 1981a) shows that ESL learners acquire BICs faster than CALP. It takes approximately two years for learners to acquire the linguistic skills needed to communicate proficiently in context embedded, face to face situations. More time, five or more years, is needed for students to become proficient in L2 sufficient to allow them to deal with the linguistically demanding aspects of oral and written language used in context reduced situations such as the classroom.

Clearly not all aspects of language are cross-lingual (Cummins & Swain, 1986). The obviously different oral aspects of language used in personal encounters and everyday language are linguistically dependent. BICs, that is, does not transfer



across languages. CALP, on the other hand, is a dimension of language proficiency believed to be common across languages. That is, it is the language associated with cognitive development (CALP) which concerns researchers studying language transfer and L2 development as it relates to academic achievement.

Aspects of language proficiency that are common across languages, for which interlingual transfer occurs, are those characteristics of proficiency related to higher order thinking, cognitive functioning and academic language such as that commonly used in texts. Although the notion of BICs and CALP has been criticized (Edelsky, et al. 1983) as an oversimplification of the phenomenon it seeks to describe, it has nevertheless provided a conceptual framework for research in L2 literacy. Findings of many research studies (Carson et al., 1990; Cummins, 1981a; Collier, 1987, 1994; Royer & Carlo, 1991; Verhoeven, 1990) have been interpreted within the context of the CUP model using the BICs/ CALP construct and provide empirical support that interlingual transfer occurs.

### **Academic Achievement**

There are many factors that influence ESL learners' academic achievement in an L2 environment. These factors include: the learner's age at the time intensive exposure to L2 begins, the length of time the learner resides in the L2 environment, proficiency in L1, L1 literacy, previous instruction in English, number of years of schooling in L1 and affective factors such as motivation to learn L2 and identity with the dominant culture.

## **Factors Affecting Academic Achievement in an L2 Environment**

### **Age**

Early studies of L2 acquisition focused largely on the relationships among age, rate and level of attainment in L2 (Collier, 1987, 1989; Cummins, 1979, 1981a; Krashen, Long & Scarcella, 1979; Skutnabb-Kangas & Toukomaa, 1976). Research findings have shown that while younger learners achieved more native-like fluency than older learners, older learners acquired proficiency in L2 syntax and morphology at a quicker rate than younger learners (Krashen, Long & Scarcella, 1979). Findings from studies (Collier, 1987; Cummins, 1981a) where the purpose of acquiring L2 was to use it as a tool for learning in school has shown that it may take eight years, on average, or more for ESL learners to reach grade-level performance on standardized tests. Collier's (1987) study of 1,548 American immigrant students showed that students arriving at ages eight to eleven were the quickest to reach the 50th NCE on standardized tests of reading, social studies, and science, i.e., they were the quickest to acquire CALP. Younger students age on arrival (AOA) 5 - 7 took longer, two to three years more than students AOA 8 - 11. Students AOA 12 - 15 took the longest. They did not achieve the 50th NCE in any subject except math after four to five years residence in the host country.

### **Length of Residence**

A similar study (Cummins, 1981a) found that more significant than the age factor on L2 achievement was the length of time an individual had resided in the host country. Cummins' reanalysis of data collected on 1,210 Canadian immigrant students' school performance showed that it may take as long as five years for students to approach grade level norms, as measured on standardized tests.

Cummins concluded that the effect of length of residence (LOR) on academic achievement was independent of age on arrival as "there are several instances where an age on arrival group which has spent less time in Canada performs better than one which has been in Canada longer" (p.145). He explains this crossover effect by saying that LOR "ceased to have a major effect" (p.145) after approximately five years. Cummins observed that while older learners' performance on standardized tests was below the norm for their grade level, their rate of absolute growth was noticeably higher than that of younger students. He attributed older L2 learners' superior performance on school tests to their higher levels of L1 linguistic and cognitive development. A more recent study (Gunderson, 1995a) of ESL learners' reading achievement showed that three years after enrolling in all-English schooling, ESL learners at all grade levels were reading two to three years behind their native English speaking peers. Indeed, 91% of the ESL students in this study required English language support. Students required more than three years to acquire the skills they need to participate in age-appropriate academic classes.

It is not clear in these studies what the characteristics of the participants were, as the authors provided little demographic information. Cummins' explanation for older students' superior performance, in keeping with the LIH, implied that they had attended school in L1 before enrolling in all-English schooling. Gunderson (1995a) interpreted secondary students higher scores in grammatical knowledge as "suggesting that they could apply their formal knowledge of their L1s to English" (p. 7). Collier noted that participants in her study were 'advantaged' in that they had "strong educational backgrounds in their first languages" (p. 621). She noted further that "they had little or no proficiency in English upon entry into schooling all in English" (p. 622). Findings from each of these studies showed clearly that it takes considerable time for L2 learners enrolled in L2 schooling to acquire sufficient academic language proficiency to allow them

to perform at a level commensurate with their same-age peers. Large scale studies such as these provide valuable information about trends and patterns of ESL learners' academic achievement in L2 schooling. Research findings from these studies have been highly influential in shaping policy and programs for ESL instruction. They do not, nor did they intend to, provide specific information about learners' backgrounds: their L1s, L1 literacy-related experiences, previous educational experiences, knowledge of English before enrolling in English-only programs or their interests, and the effect these variables have on school success. Although many researchers would agree that background variables such as these are likely to influence students' rates and levels of success at acquiring academic language proficiency, there is no empirical support that I know of for such hypotheses.

### **First Language**

As noted earlier in this paper (p. 2), continued use and development of L1 during the L2 acquisition process are important factors affecting students' L2 reading development and school success. Indeed, maintaining L1 development is, perhaps, the single most effective means known of supporting L2 and cognitive growth (Collier, 1987, 1994; Cummins, 1984; Cummins & Swain, 1986; Saville-Troike, 1984). It takes a long time to develop the proficiency in L2 academic language needed to achieve academically. It seems that facility with L1 literacy skills bestows certain advantages on learners acquiring L2 academic language. Learners apply knowledge and literacy skills developed in L1 to L2, leading to increased cognitive development.

## L1 Literacy and Education

Research has shown that there are substantial benefits to adult and child L2 learners who have literacy and educational experiences in their L1 (Coelho, 1994; Collier, 1987; Handscombe, 1994; Piper, 1993; Robson, 1981). Robson's (1981) study of the effects of literacy and education in L1 on adult Hmong learners' L2 development showed that literacy in L1 was a more significant factor than L1 education. Similarly, Piper (1993) reports that ESL children's acquisition of reading in L2 was enhanced by their familiarity with print and storybook reading in their L1s. Verhoeven (1990) found that primary-aged children learning to read in L2 relied on many of the same strategies as their peers learning to read in their L1s. Nevertheless, the children acquiring reading in L2 were less efficient than their peers learning to read in L1. It is likely that, due to their age, the L2 learners had not yet acquired literacy skills in their L1, therefore requiring that they attempt the triple task (Handscombe, 1994) of learning: (1) the functions of literacy, (2) the mechanics of reading and writing and, (3) to do this in L2, a formidable task to be sure.

There is a noticeable lack of empirical research documenting L2 reading development for students from low-literacy backgrounds (Hamayan, 1994). Researchers (Coelho, 1994; Collier, 1989; Early, 1992; Handscombe, 1994; Hamayan, 1994) hypothesize that children who have not had many literacy-related experiences are likely to have a difficult time in school. Not only do they have a second language with which to contend, but also they have to learn about school culture, to develop some notion of books, study and test taking. "there is a lot of knowing about literacy which is not explicitly taught but which a child in a highly literate culture has been inducted into, even before going to school . . . it is this *knowing about literacy* which learners not literate in their L1 may also have to learn when attempting a second language" (Barton, 1992 p. 7, emphasis in original).

Collier (1989) generalizes from her synthesis of studies examining students' acquisition of L2 for school purposes that "young arrivals with no schooling in their first language in either their home country or the host country may take ... as long as seven to ten years ... to reach the level of performance by native speakers on L2 standardized tests [of] reading, social studies and science, or indeed never" (p. 527). Early's study (1992) "Aspects of becoming an academically successful ESL student", revealed that of 15 students identified by their teachers as 'successful', only one had experienced interruptions in her schooling. However, almost half the students identified as 'less successful' had experienced interrupted schooling in L1.

### **Orthography and Reading Strategies**

Research does not provide a clear picture of the specific aspects of literacy in one language that enhance literacy development in L2. Bernhardt (1991) notes that "the distinction between first and second language reading processes, appears, first, among readers who are already literate in one language and try to become literate in another" (p. 76). Genesse (1979, cited in Cummins, 1979 p. 199) proposes that interlingual transfer is more evident between similar languages than between dissimilar languages. He suggests that there is more 'overlap of the processing mechanisms' when L1 and L2 are similar. Adams (1980, cited in Bernhardt, 1991 p. 76) notes that orthographic regularity has a positive effect on a reader's encoding ability. It may be, as Genesse suggests, that different languages - particularly those with different orthographic systems - use different processes of making meaning from print; or, perhaps once having learned to read in L1, it is simply a matter of transferring reading skills from L1 to L2. Bernhardt (1991) found that "Highly proficient nonnatives employed processing strategies more akin to native strategies than the less proficient readers who employed L1 processing strategies" (p. 52). Saville-Troike (1984), on the other hand, observed that students whose L1 was

orthographically dissimilar to L2 used different strategies to infer the meaning of unfamiliar words than students whose L1 was orthographically similar to L2. She also writes of "an Israeli boy who had difficulty reading Hebrew but ... did very well in learning to read English" (p. 214). Clearly the research evidence around issues of orthography and reading strategies is controversial and under explored.

### **Knowledge of English**

Despite what research has to say about the many factors affecting L2 acquisition and academic achievement, L2 learners are generally placed in programs according to their proficiency in English. Students with some knowledge of English are likely to feel more confident about learning in an environment where English (L2) is the language of the curriculum (Coelho, 1994). However, how much experience with English makes a difference on students' achievement has not been studied. Gunderson (1995b) conducted a study of 100 randomly selected L2 learners' background variables. He found that approximately 25% of students had some knowledge of English before enrolling in L2-only programs. He also observed that variables such as the ability to name the letters of the alphabet, known to be predictive of reading achievement for native English speakers, were not highly predictive of reading achievement in English for L2 learners. Moreover, analysis of students' scores on a variety of oral and written measures of English proficiency suggests that there are two factors, a comprehension and a recognition factor involved in the process of L2 reading development.

### **Summary and Conclusion**

Research on L2 acquisition and school success has been a mix of cross-sectional studies that look at groups of students with diverse background experiences including literacy-related experiences, L1, age, educational experiences,

and interests, or longitudinal studies that observe performance at different phases of students' L2 development, using a variety of measures and tests, or case studies that provide rich descriptions of individuals' developmental processes but, are "inconsistent in their objectives, observations and purpose" (Piper, 1993, p. 138).

Bernhardt (1991) notes that research findings make inferences about L2 reading development but do not trace it. She recommends that to study the developmental process of L2 reading, there is a need for tracking studies that provide detailed descriptions about the learners, their backgrounds, L1, age, educational and literacy experiences and, L1 and L2 proficiency levels. A theory or model of L2 reading development must account for individuals' development at any stage in that development. Such a model is based on research findings of both cross-sectional and longitudinal studies; that is, tracking studies for a known population in a known context.



## CHAPTER THREE

### DESIGN AND METHODOLOGY

#### **Introduction**

The present study investigated immigrant and refugee students' L2 reading comprehension and academic achievement. The study described the relationships among ESL students' L1 literacy and educational backgrounds and their academic performance in L2. Also, a qualitative methodological approach was used to understand more about the social and personal nature of students' experiences as learners of language and academics in an L2 setting.

#### **Subjects**

The study was conducted in the Vancouver School District, Vancouver, British Columbia. There are eighteen secondary schools in the district with an ESL population comprising approximately 39% of the total secondary student population (Form 1701, 1995-6). The cultural and linguistic profile of schools varies throughout the district. English is the majority language in some schools while in others, most of the students share a common L1 other than English. In some schools there may be more than ten different L1s spoken, i.e., there is no majority language. Similarly, the socioeconomic status of students' families also varies. There are students from families with upper, middle and lower socioeconomic backgrounds. Immigration status of ESL students' families generally reflects their socioeconomic status. Immigration status ranges from that of diplomat to entrepreneur to landed immigrant to refugee.

Subjects were selected if they had registered in the Vancouver School District between 1990 and 1993 and were between the ages of eight and twelve at the time they registered. The school district provided a list of students who met these criteria. Subjects were selected if their names were on this list and they had remained in the Vancouver School District since registration. All participants were enrolled in grades eight to eleven at the time of the study.

### **Sample-Selection Procedure**

To obtain a sample of schools representative of the school district, the researcher selected seven high schools from a cross-section of the Vancouver School District. The researcher arranged to meet with school administrators from selected schools to explain the study and to invite participation. All agreed to participate in the study.

In all but two of the selected schools, Cantonese and Mandarin were the predominant L1s spoken in the schools. English was the predominant L1 in the other two schools. Therefore, letters explaining the study in English and Chinese and permission forms were sent to students' parents. Those who agreed to have their children participate signed consent forms. By the end of the study fifty-five students had agreed to participate.

### **Instruments**

Six instruments were used to collect data in four categories (Table One). The first category of data was baseline data collected at the Oakridge Reception and Orientation Centre (OROC) at the time students registered in the district, before they were enrolled. Data in the second and third categories, interview and assessment data, were collected in schools between January and June 1996. Five

instruments were used: a semi-structured interview protocol, the Passage Comprehension subtest of the Woodcock Reading Mastery Tests/Form A (1973), grade-level, standardized, criterion-based Math tests and holistically scored first and second language compositions. Students' final grades for the 1995-6 school year provided the fourth category of data, academic achievement.

## **I. Baseline Data (on arrival)**

### Interview

Families enrolling students new to the Vancouver School District are interviewed in their L1s by OROC staff, Multicultural Home School Workers (employees of the Vancouver School Board) or trained translators. Interviewers use a structured interview protocol developed collaboratively by receiving elementary and secondary teachers, Multicultural Home School Workers and OROC staff. The interview schedule was designed to collect information concerning students' developmental, educational and family histories. Developmental information includes data such as: date of birth, gender, immigration status, language spoken at home, dominant language and L2. Educational background information includes: age first enrolled in school, type of school, country, language of instruction, hours of instruction per day, number of days per week, class size, favourite school subjects, least favourite school subjects, number of hours and years of English study. The family questionnaire provides information about the names and number of countries in which the student has resided

**Table 1**

**Data Collection Instruments**

<b><u>Category</u></b>	<b><u>Type of Data/Year</u></b>	<b><u>Instruments</u></b>
<b>I</b>	Baseline data (1990 - 1993)	<ul style="list-style-type: none"><li>• 53 item structured interview protocol (L1)</li><li>• passage comprehension subtest H (WRMT-R,1987)</li><li>• Curriculum Associates Math Test</li><li>• L1 written composition (no Prompts)</li><li>• L2 written composition (prompts)</li></ul>
<b>II</b>	Interview data (1996)	<ul style="list-style-type: none"><li>• 28 item semi-structured interview protocol</li></ul>
<b>III</b>	Assessment data (1996)	<ul style="list-style-type: none"><li>• passage comprehension subtest Woodcock Reading Mastery Tests/Form A (1973)</li><li>• grade appropriate math tests</li><li>• L1 written composition (no prompts)</li><li>• L2 written composition (prompts)</li></ul>
<b>IV</b>	Academic achievement (1996)	<ul style="list-style-type: none"><li>• final grades for the 1996 school year</li></ul>

## Assessment

Students' English reading, Math, and first and second language writing were assessed using a battery of standardized and holistically scored measures.

### *Reading*

The Woodcock Passage Comprehension H subtest (Woodcock Reading Mastery Tests - Revised) is a modified cloze procedure designed to measure knowledge of vocabulary and reading comprehension for students from Kindergarten to grade 16 (Woodcock, 1987). The test comprises sixty-eight questions of increasing difficulty with picture cues to accompany approximately the first one-third of the questions. Each question is from one to three sentences in length with one blank per question. The questions are designed so that students are unable to restore the deletion making inferences from only the words immediately surrounding the deletion. Students must read the complete sentence or series of sentences to restore the deleted word. Therefore, restoration of the missing word suggests that students have comprehended the entire passage.

### *Math*

The Curriculum Associates Math test, a thirty-two item standardized Math test, assesses the mathematics abilities of elementary school aged children. It assesses basic computational skills such as addition, subtraction, multiplication and division and, addition, subtraction, multiplication and division of decimals and simple and complex fractions.

## *Writing*

Second Language (L2) composition: The English, L2, Composition comprises a sheet of lined paper with five prompts. Students choose one topic on which to write and have as much time as they require to demonstrate their English writing skills.

First Language (L1) Composition: There are no prompts for the native language, L1, composition. Students are provided with only a sheet of lined paper and asked to produce a sample of writing in their native language.

## **II. Interview (1996)**

A twenty-eight item semi-structured interview protocol was used to interview students in English (see Appendix 1). The interview protocol was designed to explore students' use of first and second language, reading habits in L1 and L2 and homework patterns. It also asks for students' general opinions about student life and their plans and aspirations for the future.

## **III. Assessment (1996)**

Four instruments were used to measure students' L2 reading achievement, Math, L1 and L2 writing abilities. The assessment instruments were chosen to provide data congruent with that collected at OROC to allow for pre- and post-test analyses. Therefore, a different subtest of the Woodcock Passage comprehension and grade appropriate math tests were chosen. A different set of prompts was provided for the L2 written composition. The researcher opted to include both written and picture stimuli to provide students with a broader range from which to display their L2 writing abilities. Like the original L1 written composition, no prompts were offered.

### *Reading*

The Passage Comprehension subtest of the Woodcock Reading Mastery Test/Form A (1973) was used to assess students' reading comprehension in English. The test, a modified cloze, comprises eighty-four items of increasing difficulty. The test assesses reading comprehension levels ranging from grades one to twelve. Because students taking the test were in grades eight to eleven, the first twenty-six questions (31%) were eliminated; the test began with item number 27, estimated to be the equivalent of a mid grade one level of reading comprehension (Woodcock, 1973).

### *Math*

Four criterion-based standardized math tests (grades 8, 9, 10 and 11) were used to assess students' mathematics abilities. District math and ESL teachers developed the tests collaboratively to include components representing the major concepts students need to know to function at or above the specified grade level. All tests are multiple-choice. The grade eight test comprises fifteen questions; tests for grades 9, 10 and 11 each have 20 questions.

### *Writing*

L2 composition                      The L2, English, composition comprises six prompts: two written and four picture cues, each with a caption. Students were asked to choose one prompt and to write a composition in English based on the prompt.

L1 composition                      There were no prompts for the L1, native language, composition. Students were provided with two sheets of lined paper and encouraged to choose a topic that was familiar to them or about which they chose to write.

#### **IV. Academic Achievement**

The grade point average was recorded for the students' final grades in English, communications, math, science (including biology, chemistry and physics), social studies (including history and geography), and English support classes (including ESL, English Language Centre (ELC) and transitional) for the 1995-6 school year.

#### **Procedures**

##### **Data Collection**

##### **Baseline data**

Baseline data were collected and coded at OROC as part of an ongoing study investigating the family, developmental, linguistic, and literacy backgrounds of immigrant students (Gunderson, in progress). Four individuals recorded data from the interview protocol and assessment battery. Data were subsequently entered into a computer database.

##### **Interview (1996)**

The researcher interviewed students individually to gain insight into their perceptions of themselves as learners (and users) of language, L1 and L2, and as members of academic and social communities. Individual student interviews were conducted from January to June 1996. In all but one school, students were interviewed during school time. The interviewer arranged with school administrators for students to be excused from class for approximately 45 minutes to participate in a one-on-one interview. Interviews were conducted in a small, semi-private room, usually the medical room, a counsellor's office or the library. At



the beginning of each interview session students were assured of the confidential nature of the interview. The interviewer followed a semi-structured interview protocol and recorded students' comment on the interview protocol. At the conclusion of the interview session students were given opportunities to ask the interviewer questions, to read all notes the interviewer had written and to make any desired changes. The interview format was very flexible. Time was available if students wished to ask questions or elaborate on a given question. On average, the interview took thirty-five minutes with a range from twenty-five to sixty minutes.

### Assessment

Follow-up assessments were conducted from January to June 1996. Formal group assessment of students' English reading comprehension, first and second language writing, and math performance occurred after school hours. For those students, less than ten, who had conflicts in their schedules, special arrangements were made for them to be assessed individually during school time. All assessments were conducted in unoccupied classrooms or the library.

Students were given all components of the assessment battery at the same time. There were no instructions regarding the order students should complete the battery; however, most students completed the tests in the following order: reading comprehension, math, L2 composition, L1 composition. Students were allowed two hours to complete the assessment. In two cases students excused themselves after approximately thirty minutes and left the session without completing all components of the assessment.

The Passage Comprehension Woodcock/Form A is designed to be administered individually. The test can be modified, however, to be administered to groups in a written format (Tuinman, Kinzer & Muhtadi, 1980). Students are provided with a written version of the same cloze and required to replace, i.e., to

write in, the missing word. This procedure was adopted to facilitate group assessment.

### Academic Achievement

The researcher recorded participants' final grades in English, math, social studies (including history and geography), science (including Chemistry, Biology and Physics) and English support classes (including ESL, English Language Centre (ELC) and transitional). The grade point average for each subject was recorded. These scores were then added to the database.

The researcher recorded the date at which students exited ESL. Vancouver School Board policy no longer considers students as ESL when they are registered in 50% or more mainstream subjects; however, a student may still receive language support in ESL, ELC or transitional classes after exiting ESL. The date (month and year) when a student no longer received language support of any kind (i.e., 100% of their courses were mainstream) was noted.

### Scoring Procedures

#### Interviews

Three researchers participated in coding interview data from the L1 interviews conducted on arrival. Interview data from the English interviews (1996) were coded by the interviewer. All interview data were recorded on Fortran sheets and entered into a computer database.

## Assessments

### *Reading*

The Reading comprehension tests were scored as outlined in the manuals (Woodcock, 1979; Woodcock, 1987). The scoring guide offers a selection of acceptable responses for each question. It also provides a list of words that are not acceptable, thus reducing the degree of subjective marking resulting from the examiner variable. When scoring the Passage Comprehension Woodcock/Form A, nonconventional spelling was accepted if the intended meaning was easily understood.

### *Math*

All math tests were scored using prescribed keys. OROC staff marked math tests administered upon arrival in the district and the researcher marked tests administered in the spring of 1996. To account for the discrepancy in the number of items per test (e.g., 32 items on the Curriculum Associates Math Test, 15 items on the grade eight test and 20 items on the others), raw scores were converted to percentages.

### *Writing*

Second language compositions were scored holistically on a five-point scale where 1 = poor 2 = fair 3 = average 4 = good and, 5 = very good. Raters assigned a score to the composition relative to a student's age-appropriate grade level. Three independent raters scored the L2 compositions written upon arrival in Canada. Similarly, L2 compositions written in 1996 were scored using the same holistic scoring procedure and the same five-point scale. Three independent raters scored all L2 compositions.

First language compositions were scored anecdotally by OROC staff, Multicultural Home School Workers or trained translators fluent in the language in which the composition was written. These comments were then interpreted by two (1996) or three (on arrival) raters and rated on a five-point scale (1 = "poor" 2 = "fair" 3 = "average" 4 = "good" and, 5 = "very good").

Data from interviews, test scores and school grades were coded on Fortran sheets and entered into the database.

### **Analyses**

Descriptive analyses were carried out for all data collected. Data were analyzed using quantitative and qualitative analyses to describe selected demographic characteristics of the participants and the relationships between students' background variables and their academic achievement. Some correlational analyses were also conducted. Data were entered into a computer program which generated frequency distributions, measures of central tendency and Pearson product-moment correlation coefficients. Students' self reports of the social and personal nature of their experiences as learners of language and academics in an L2 setting were analyzed qualitatively. Anecdotal responses to interview questions were collated and analyzed by hand.

### **Limitations**

This study was designed to investigate the reading development and academic achievement of fifty-five ESL students in the Vancouver, British Columbia School District. All participants were between the ages of eight and twelve years at the time they enrolled in the district. All participants were enrolled in at least their fourth consecutive school year in the Vancouver School District. The

sample selected is reflective of students who meet these criteria. Findings from this study are not intended to be generalized to student populations from different districts and with different Age on Arrival and Length of Residence.

## CHAPTER FOUR

### RESULTS OF THE STUDY

#### **Introduction**

This chapter presents the results of the study. A brief description of the participants is given first, followed by a summary of data collected and a presentation of quantitative and qualitative research findings.

#### **Participants**

Fifty-five students (31 males and 24 females) participated in the study. Participants were selected if they had enrolled in the Vancouver School District, Vancouver, British Columbia between 1990 and 1993 and were between eight and twelve years of age on arrival. All participants had remained in the Vancouver School District since registration and were enrolled in grades eight to eleven at the time of the study. The language of instruction in all schools was English (hereafter called L2 schooling). All students had a minimum of four years of schooling in Vancouver.

#### **Demographic Data**

Demographic information for the participants was obtained from data collected at the time they registered at OROC, Vancouver School Board, Vancouver, British Columbia. Fifty-five students took part in the study: 56.36% (31) male and 43.64% (24) female (Table 2). All participants had a minimum of four years of schooling in Vancouver. Most were enrolled in their seventh year of L2 schooling, with an average of 6.58 years (Table 3). Students were between the ages of thirteen and seventeen and were enrolled in grades eight to eleven. Among them they

spoke thirteen L1s (Table 4) and came from fourteen different countries (Table 5). The immigration status of students' families, generally believed to reflect socioeconomic status, ranged from entrepreneur to landed immigrant to refugee to Canadian citizen (Table 6).

**Table 2**

**Gender of Participants (in percentage)**

<b>Gender</b>	<b><u>Percent</u></b>	<b><u>n</u></b>
Male	56.36	31
Female	43.64	24

**Table 3**

**Years of L<sub>2</sub>-Only Schooling in Vancouver (in percentage)**

<b>Years</b>	<b><u>4</u></b>	<b><u>5</u></b>	<b><u>6</u></b>	<b><u>7</u></b>
<b>Percent</b>	1.8	7.3	21.8	69.1
<b>n</b>	1	4	12	38
<b><math>\bar{x}</math> = 6.58 years</b>				

**Table 4**

**Frequency of Students' First Languages (in percentage)**

<b><u>First Language</u></b>	<b><u>n</u></b>	<b><u>Percent</u></b>
Cantonese	21	38.2
Chu Chow	1	1.8
Hakka	1	1.8
Japanese	1	1.8
Mandarin	9	16.4
Polish	1	1.8
Pushto	1	1.8
Spanish	4	7.3
Tagalog	2	3.6
Taiwanese	1	1.8
Tamil	1	1.8
Twi	1	1.8
Vietnamese	11	20.0



**Table 5**

**Frequency of Students' Countries of Origin (in percentage)**

<u>Country</u>	<u>n</u>	<u>Percent</u>
Afghanistan	1	1.8
Brazil	1	1.8
China	4	7.3
El Salvador	3	5.5
Ghana	1	1.8
Guatemala	1	1.8
Hong Kong	21	38.2
Japan	1	1.8
Malaysia	2	3.6
Philippines	1	1.8
Poland	1	1.8
Sri Lanka	1	1.8
Taiwan	13	23.6
Vietnam	13	23.6

**Table 6**

**Immigration Status of Students' Families (in percentage)**

<b><u>Immigration Status</u></b>	<b><u>n</u></b>	<b><u>Percent</u></b>
Landed	35	63.6
Refugee	13	23.6
Entrepreneur	3	5.5
Canadian citizen	1	1.8
Missing data	3	5.5

**Hypotheses**

This study was designed to explore the effect of immigrant and refugee students' literacy and educational backgrounds on their acquisition of L2 reading and academic achievement. Five hypotheses were posited to address this issue. They are categorized under three headings: (1) Previous Education in L1, (2) L1 Literacy and, (3) L2 Literacy and Academic Achievement.

*Previous Education in L1*

I. Students who have been educated in L1 prior to immigrating will spend less time in ESL classes than students whose L1 education has been unduly interrupted or who have had no previous schooling in L1

II. Students who have had previous English instruction in their home country prior to enrolling in an L2 schooling spend less time in ESL classes than students who have had no previous English instruction.

*L1 Literacy:*

III. L2 reading performance of students who were literate in L1 at the time of arrival and have maintained literacy in L1 will be superior to that of students who have not maintained L1 literacy skills.

IV. Orthographic similarity is not a predictor of L2 reading achievement.

*L2 Literacy and Academic Achievement:*

V. Students who have well-developed expressive language skills will be more successful academically than students who have less developed expressive language skills.

**Previous Education in L1**

The first two hypotheses refer to students' education in L1. They include:

I.) students who have been educated in L1 prior to immigrating will spend less time in ESL classes than students whose L1 education has been unduly interrupted or who have had no previous schooling in L1, and

II.) students who have had previous English instruction in their home country prior to enrolling in L2 schooling spend less time in ESL classes than students who have had no previous English instruction.

This first set of hypotheses (I & II) predicts that students who have been educated in L1 prior to enrolling in L2 schooling will spend less time in ESL classes than students whose L1 education has been unduly interrupted or who have had no previous schooling in L1. Also, students who have studied English prior to

enrolling in L2 schooling will spend less time in ESL than students who have had no previous English instruction.

### *I. L1 Educational Background*

Information regarding students' educational backgrounds was obtained from family interviews conducted at OROC upon arrival (baseline data). The number of years of schooling in L1 and the type of school attended (e.g., urban, rural, refugee, private) were recorded. Pearson product-moment correlation coefficients were calculated to observe a possible relationship between L1 schooling and the length of time students spent in ESL. Also, relationships between L1 schooling and select academic courses and the relationship between years in ESL and L1 and L2 literacy and academic achievement in L2 were considered.

The mean number of years of L1 schooling was 4.74, with a range of 2.0 to 8.0 years (Table 7). Data were missing for nine students. It is not known if these students attended school in L1, or, if they did, for how long or what type of school they attended. In the follow-up interviews (1996), three students commented that they did not know how to read or write before they began school in Canada. Analysis by Pearson product-moment correlation showed a significant positive correlation between years of L1 schooling and L2 literacy (.36,  $p < .05$ ). It may be inferred, therefore, that if the students who were not literate in L1 upon arrival in Vancouver had been to school in L1, it was likely to have been brief.

Most students reported having attended school in an urban setting; however, 10% reported going to school in a rural or refugee situation (Table 8).

**Table 7**

**Frequency of Years of L<sub>1</sub> Schooling (in percentage)**

<b>Years of L<sub>1</sub> Schooling</b>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>Missing Data</u>
<b>n</b>	2	5	17	9	7	4	2	9
<b>%</b>	3.6	9.1	30.9	16.4	12.7	7.3	3.6	16.4
$\bar{x} = 4.74$								

**Table 8**

**Frequency of Different Types of L<sub>1</sub> Schools (in percentage)**

<b>Type of L<sub>1</sub> Schooling</b>	<u>Urban</u>	<u>Rural</u>	<u>Refugee</u>	<u>Private</u>	<u>Missing Data</u>
<b>n</b>	29	2	4	10	10
<b>%</b>	52.7	3.6	7.3	18.2	18.2

**ESL**

Students spent, on average, 2.36 years in ESL (Table 9). The amount of time they spent in ESL ranged from less than one year (four students) to more than six years (two students). VSB policy considers students ESL (i.e., they are funded as

such) if more than 50% of their courses are ESL courses. No statistically significant relationship was found between years of schooling in L1 and years in ESL ( $-.11, p < .05$ ).

Most students (69.1%) spent up to two years in ESL (Table 9). There were two groups of students whose length of time in ESL was notable, however. The first group consisted of four students, all males, who exited ESL in less than one year. The second group was ten students who spent five or more years in ESL. Table 10 shows some demographic characteristics for these two groups.

**Table 9**

**Frequency of Years in ESL (in percentage)**

<b>Years</b>	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
<b>n</b>	4	15	19	3	4	8	2
<b>%</b>	7.3	27.3	34.5	5.5	7.3	14.5	3.6
<b><math>\bar{x}</math> = 2.36 years</b>							

Table 10

Demographics of Early and Late Exit Groups from ESL

<u>Early Exit (&lt; 1 year)</u>			<u>Late Exit ( 5+ years)</u>		
n = 4			n = 10		
Gender	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	
n	4	0	7	3	
Immigration Status	<u>Landed</u>	<u>Refugee</u>	<u>Landed</u>	<u>Refugee</u>	
n	4	0	6	4	
Previous English Study (years)	<u>&lt; 1</u>	<u>4</u>	<u>0</u>	<u>1</u>	<u>5</u>
n	2	2	5	4	1

*Early Exit*

The four students who spent less than one year in ESL all immigrated as Landed Immigrants and spoke a first language of either Cantonese (3) or Mandarin (1). Two students were enrolled in each of grades 9 and 10 at the time of the study. Two students claimed not to have had any instruction in English before immigrating; however, their scores on the L2 reading comprehension test written on arrival were among the highest scores recorded. The other two students also

scored high on the L2 reading comprehension test written on arrival. These two students each reported four years of English study before beginning L2 schooling.

### *Late Exit*

There were ten students, seven males and three females, who spent five or more years in ESL. Six were Landed Immigrants and four had Refugee status. Their L1s were: Cantonese (1), Mandarin (1), Spanish (2), and Vietnamese (6). Five of the ten students reported having had no English instruction before enrolling in L2 schooling. Four students had one year of English instruction and one student had more than one year of English instruction. It is likely that the L1 education of students immigrating with refugee status may have been interrupted or severely lacking. One student, a Vietnamese girl, reported having attended school two hours a day for three years while in a refugee camp in Hong Kong. Five more students, all males, three Vietnamese one from China and one from Guatemala, had experienced interrupted schooling, having moved two or more times before settling in Vancouver. At least two of these students could not read or write in L1 on arrival in Canada, again suggesting limited schooling in L1.

### **L1 Schooling and Academic Achievement**

Pearson product-moment correlation coefficients were calculated to observe possible relationships between the number of years of schooling in L1 and achievement in key courses, as measured by Grade Point Average (Table 11). Analysis showed significant correlations for the number of years of schooling in L1 and achievement in math, English and social studies. Statistically significant findings were also obtained for years of L1 schooling and writing ability in both L1 and L2. No statistically significant findings were obtained between L1 schooling



and L2 reading and L1 schooling and achievement in science. Correlations were strongest for Social Studies (.52), L2 writing (.49) and English (.47) followed by math (.44) and L1 writing (.36), with alpha set at .05. These findings support a common underlying proficiency.

Analysis revealed statistically significant negative relationships for years in ESL and L1 writing ability, L2 writing ability, L2 reading comprehension and achievement in science, socials and English (Table 12). These findings show a negative relationship between the rate and level of proficiency in L2 attained and literacy (i.e., reading and writing in both L1 and L2) and academic achievement. The faster students acquire L2 literacy skills the sooner they exit ESL.

**Table 11**

**Relationships between Years of L<sub>1</sub> Schooling and Academic Achievement**

	<u>English</u>	<u>math</u>	<u>science</u>	<u>socials</u>	<u>L<sub>1</sub></u> <u>Writing</u>	<u>L<sub>2</sub></u> <u>Reading</u>	<u>L<sub>2</sub></u> <u>Writing</u>
<u>Years of L<sub>1</sub></u> <u>Schooling</u>	.47**	.44**	.28	.52***	.36*	.12	.49**

\* p < .05, \*\* p < .01, \*\*\* p < .001

Table 12

Relationships between Years in ESL and Academic Achievement

	<u>English</u>	<u>math</u>	<u>science</u>	<u>socials</u>	<u>L1</u> <u>Writing</u>	<u>L2</u> <u>Reading</u>	<u>L2</u> <u>Writing</u>
Years in ESL	-.41**	-.24	-.48***	-.38**	-.33*	-.50***	-.58***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

II. *Previous English Study*\*\*\*

The second previous education in L1 hypothesis maintains that "students who have had previous English instruction prior to enrolling in L2 schooling will spend less time in ESL classes than students who have had no previous English instruction."

A record was made upon registration at OROC of the number of hours per week and the number of years students had studied English before enrolling in the Vancouver School District. Descriptive statistics were calculated and Analysis of Variance was carried out to observe differences in students' performance in L2 reading due to years of previous English instruction.

Sixty-nine percent of the students reported having studied English before immigrating to Canada. Table 13 shows the frequencies, mean and standard deviations for students' previous English study. The mean number of years students had studied English was 2.0 years, with a range from no previous English

study (less than one year) to seven years of English instruction. The mean number of hours of English study per week was 5.6 hours. Analysis by ANOVA showed significant differences in L2 reading comprehension by years of English study before enrolling in L2 schooling ( $F(7,43) = 4.26, p = .0012$ )

**Table 13**

**Years of English Study in L<sub>1</sub> (in percentage)**

Years	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
%	40.0	16.4	7.3	3.6	16.4	7.3	7.3	1.8
n	22	9	4	2	9	4	4	1
$\bar{x} = 2.0$ years								
sd = 2.194								

**Summary**

Eighty-four percent of the students reported having attended school before immigrating to Canada. Data were missing for the remaining students (16 percent). It is likely that the type and duration of school experiences of those students immigrating with refugee status were lacking. For example, one grade 10 Vietnamese girl explained that she had been to school in a refugee camp in Hong Kong before immigrating to Canada. At this time she went to school for only two hours a day. A Vietnamese speaking, grade 10 boy who immigrated as a refugee moved first to Calgary from Vietnam and then to Vancouver. This student was still living with an older sister. His parents were divorced; his father lived in Calgary

and his mother was in Vietnam. He could neither read nor write in L1. His sister read to him letters from his mother. A third student, another grade 10 Vietnamese speaking boy with Landed Immigrant status, had immigrated first to Halifax where the language of instruction was French. Then, his family moved to Ontario and finally settled in Vancouver.

Correlational analysis showed no statistically significant relationship for years of schooling in L1 and years in ESL. The findings may be educationally significant, however. It seems that limited schooling in L1 and exceptional interruptions to schooling may impede the rate and level of L2 proficiency attained, as measured by time spent in ESL.

### **L1 Literacy Hypotheses**

The next two hypotheses (III & IV) relate to students' L1 literacy background and L2 reading.

Hypothesis III holds that "L2 reading performance of students who were literate in L1 upon arrival and have maintained literacy in L1 will be superior to that of students who have not maintained L1 literacy skills." No significant correlation was obtained between performance on L1 compositions written in 1996 and L2 reading ( $-0.01, p < .05$ ). However, analysis by Pearson product-moment correlation showed a weak but significant relationship between ability to write in L1 and the length of time students spent in ESL ( $-0.33, p < .05$ ). These findings suggest that students literate in L1 had an advantage over students not literate in their L1. Students who were literate in L1 on arrival spent less time in ESL than students who had not acquired L1 literacy skills.

Most students had not continued to develop L1 literacy. Almost 50% of the students reported that they were stronger readers in L2 than in L1. Four times as many students reported L2 as their dominant language for writing than reported L1

(Table 14). Also, the mean performance on L1 compositions dropped from 2.9 on arrival to 1.67 in 1996 (where 3.0 = "average," 2.0 = "fair" and 1.0 = "poor" as appropriate for grade level). These findings show that students had neither maintained nor continued to develop L1 literacy skills (Table 15). Nineteen students (35%) were unable to write a short composition in their L1 in 1996.

**Table 14**

**Students' Perceptions of their Dominant Language for Speaking, Reading and Writing**

<u>Dominant Language</u>	<u>Speaking</u>	<u>Reading</u>	<u>Writing</u>
<u>L1</u> Percent n	60.0 33	30.9 17	16.4 9
<u>L2</u> Percent n	23.6 13	49.1 27	70.9 39
<u>L1 &amp; L2</u> Percent	16.4 9	20.0 11	12.7 7

Table 15

Means and Standard Deviations for Performance on L1 Compositions

	<u>Arrival</u>	<u>L1 Composition</u> <u>1996</u>
n	11	55
$\bar{x}$	2.9	1.67
sd		1.40

L1 Composition

Students who were able wrote short compositions in L1 on arrival and in 1996. Compositions were scored holistically on a five-point scale (1 = "poor," 2 = "fair," 3 = "average," 4 = "good," 5 = "very good") compared with their age-appropriate grade level and descriptive statistics were calculated (Table 15). Interrater reliability ranged from .92 - .98. Eleven students wrote L1 compositions on arrival. Scores ranged from 1 to 5. The mean was calculated at 2.9, where 3.0 = "average." In 1996 the mean score on L1 compositions was 1.67 (n = 55), with a range of 0 to 4. The mean in 1996 was considerably lower than that on arrival. These findings suggest that students were neither maintaining nor continuing to develop L1 writing skills.

Students' self-reports that their written skills were weaker in L1 than L2, supported by a decrease in mean performance on L1 compositions from arrival to

1996, shows that most students had not continued to develop their L1 writing skills commensurate with their grade level.

### L1 Orthography and L2 Literacy

Hypothesis IV claims that "orthographic similarity is not a predictor of L2 reading." Data were analyzed both quantitatively and qualitatively to explore the role of orthography on L2 reading acquisition. First languages using a Roman alphabet were considered orthographically similar to English. All others were categorized as orthographically different from English (see Appendix 2).

Mean scores in L2 reading were computed for students with orthographically similar and different L1s. A  $t$  - test for independent means was calculated to compare mean performance in L2 reading for the two groups. The mean score for students whose L1 was orthographically different from L2 was calculated to be 55.34 ( $n = 35$ ,  $sd = 10.77$ ) and for students whose L1 was orthographically similar to L2 at 49.06 ( $n = 16$ ,  $sd = 11.55$ ). No significant differences in L2 reading were found due to difference in orthography ( $t = .105$ ,  $p = .747$ ). Students' own perceptions of the benefit of knowing how to read in an L1 orthographically similar or different to L2 differed slightly from empirical findings, however.

To gain insight into students' perceptions about the advantages or disadvantages that knowing how to read in L1 had on acquiring reading in English, I asked them if they felt that knowing how to read in L1 had helped them to learn to read in English. Of the 47 students who responded (some could not say, could not remember or, were not literate in L1 at the time they began learning to read in English), 55% believed that knowing how to read in L1 had helped them with learning to read in L2. The majority of these students was literate in an L1 that was orthographically similar to English, however. Sixty-two percent of students whose

L1 was orthographically different from English believed that knowing how to read in L1 was not an advantage in learning to read English. Two Cantonese speaking students (a grade 9 female and a grade 10 male) offered the following comments:

*"No. They [English and Cantonese] are two totally different languages."*

(Grade 9 female)

*"No. I don't think there is a connection between the two [English and Cantonese]."*

(Grade 10 male) In fact, a few students felt that knowing how to read in L1 made it more difficult to learn to read English.

*"Actually I think it makes it harder because you are accustomed to the old ways and grammar so you get things [order] mixed up."*

(Grade 10 Cantonese speaking male)

*"No. It's harder when you read in a different language. It seems harder to learn another language because you already know a language."*

(Grade 10 Cantonese speaking female)

*"Not really because the scripts are so different."*

(Grade 10 Tamil speaking female)

Students whose L1 was orthographically different from English and believed that knowing how to read in L1 helped learning to read in L2 referred mostly to translation as a strategy for using L1 to assist learning to read in L2.



*"Like if I don't understand a word, I can use a dictionary and translate into Cantonese and you understand what it would mean."*

(Grade 10 Cantonese speaking female)

*"I think so because when you reading you don't know the vocab but you know the Mandarin so you can know the definition."*

(Grade 10 Mandarin speaking male)

*"Yeah, a little bit I think so. When you read in English your mind would translate into Cantonese and you understand what it would mean."*

(Grade 9 Cantonese speaking female)

There were exceptions where students seemed to have a greater awareness of the reading process. A grade 9 Vietnamese speaking male commented:

*"Sometimes the meaning when you read a book is different than looking it up in a dictionary. The way the author write - the style - is different than you could find in a dictionary."*

Similarly, two students whose L1 was orthographically different from English felt that despite orthographic differences, knowledge of reading in one language helps acquiring reading in L2. A grade 10 Mandarin speaking boy and a grade 9 Cantonese speaking girl indicated in their comments that they engaged in a psycholinguistic guessing game (Goodman, 1967) when reading:

*"I guess. The sentence structure - you can guess what the word is. If you know the story in one language you can just read it in the other."*

*"Yeah, I think so. Maybe you have already read some kind of story - the same plot - if you don't understand, you can kind of guess what happening."*

One grade 10 Cantonese speaking male student referred to using his L1 schema as a strategy for comprehending in L2:

*"Yeah. It's like you learn a new word in English and you can refer it back to your own language."*

Fourteen out of fifteen students whose L1 was orthographically similar to English believed that knowing how to read in L1 was an advantage in learning to read in L2. They commented largely on the similarities between the languages.

*"I think so. When you see a word you know how to pronounce it [in Vietnamese]. This helps in English."*

(Grade 10 Vietnamese speaking female)

*"Yeah. Knowing the words - some are similar."*

(Grade 9 Tagalog speaking female)

*"Yeah I think so because some of the words are totally almost the same. Just the pronunciation is different. That's why it's easier for me to learn English because a lot of the words are the same."*

(Grade 11 Spanish speaking female)

*"Yes, it did. Before I came here I lived in Germany and I had to learn German. It was easier to learn English because I had already learned another language."*

(Grade 11 Polish speaking female)

A couple of students believed that, because of the similarity between their L1 and English, they had an advantage over their peers with orthographically different L1s.

*".... most of the letters in Filipino are taken from English . . . If you've got Chinese to back it up it's no use because they've got characters. I've got a bit of an advantage over the Chinese speaking students."*

(Grade 10 Tagalog speaking male)

*"Chinese people have to learn a new alphabet. So, when I think about it, our alphabets are the same so it was probably easier for me."*

(Grade 11 Spanish speaking male)

### **Summary**

Results show that students who were literate in L1 on arrival spent less time in ESL than students who had not acquired L1 literacy skills. Most students had not continued to develop L1 literacy skills. No significant differences were found in L2 reading performance due to L1 literacy. Orthography was not found to be a predictor of L2 reading. Students with an orthographically different L2 did not perceive knowing how to read in L1 as an advantage in learning to read in L2 other than possibly as a translating strategy. However, students with an orthographically similar L1 believed they had an advantage over students with an orthographically different L2 when learning to read in L2.

## **L2 Literacy and Academic Achievement**

The fifth hypothesis concerns L2 literacy and academic achievement. It states that "students who have well-developed expressive language skills in L2 will be more successful academically than students who have less developed expressive language skills in L2."

Second language learners' expressive language was investigated using qualitative and quantitative methods. The first section summarizes interview data about students' use of L1 and L2, their study habits and subject preferences. Students were interviewed individually and their responses were recorded on interview protocols. Later, responses were coded and frequencies calculated. Responses are presented as percentages. In the second section, students' reading habits are presented. Descriptive statistics were calculated for students' L2 reading. Finally, mean changes in L2 reading were assessed.

### *Language Use*

Students reported using their L1s more often than, or as often as L2. Less than half the students (32.7%) reported using L1 more often than English (L2). Almost the same number (30.9%) believed that they used their L1s and English equally. Fewer students (27.3%) reported using English more often than they used their L1s.

Students most frequently used their L1s to communicate with their friends and family members, usually their parents, at home and at school. Many students reported that they only used English when they had to, that is, in situations where they were required to speak with someone who does not understand their L1. For instance, students tended to use English when speaking with a teacher or other school personnel, when translating for relatives or in social situations such as shopping.

### *Language Dominance*

Most students reported not only that they used L1 more often than L2, but also that they believed themselves to be stronger speakers in their L1s. There is, however, a shift from L1 dominance in speaking to L2 dominance for reading and writing.

Less than 25% of the students considered L2 their dominant spoken language. Approximately 50% reported that they were stronger readers in L2 than in L1 and 71% believed they were better writers in L2 than in L1. Table 14 shows students' perceptions of their dominant language for speaking, reading and writing.

Seventy-six percent of the students felt that they spoke their L1 more fluently or as fluently as English. Fewer, 47.3% felt that they were better readers in L1 or that they read equally well in both languages. Only 29.1% of the students considered L1 their dominant language for writing. Seventy-one percent (39) of the students believed that they were better writers in English than in their L1s, this included fifteen students who were not able to write a composition in L1. Nine students (16.4%) claimed that they were more proficient writers in L1, seven (12.7%) felt that they wrote equally well in either language.

Despite most students' claim that L2 was their dominant written language, many students expressed concern about their ability to write well in L2. Only 50% of the students reported feeling comfortable expressing themselves adequately on tests and assignments. Twenty-eight percent reported that they sometimes encountered problems expressing themselves in English and 20% felt that they could not yet express themselves satisfactorily in writing in L2. Thus, almost 80% of the participants had concerns regarding their L2 writing abilities. Most students felt they had a better chance of getting a good grade on a multiple-choice test than on one that required them to write an essay. Concern for their L2 writing skills was

also the main reason students ranked Social Studies and English among their least liked subjects.

One grade 10 Mandarin speaking male said:

*"Sometimes I can't express myself well in essays. I'd rather draw a picture to explain myself."*

Another student, a grade 9 Vietnamese speaking male, commented:

*"Well, I think I do better on the multiple-choice than essay. Well, because, you know I've got a lot of grammar problems so I can't express myself."*

Concern for their ability to express themselves in L2 may explain why most students (60.0%) preferred multiple-choice or matching test questions rather than essay-type questions.

A grade 11 Vietnamese speaking female remarked:

*"Whenever the teacher says it's a multiple-choice test, I have a calm feeling."*

A grade 11 Taiwanese speaking male student calculated that

*If I don't get a question, I have a one-in-five or one-in-four chance of getting it correct."*

A grade 11 Cantonese speaking male reported candidly,

*"Multiple-choice is best. It doesn't require a lot of thinking."*

Only three students (5.4%) preferred essay-type exams. Sixteen students stated no preference for test type. They commented that all tests, whatever the format, were equally hard; or, conversely, that, if you studied, they were all easy!

## Study Habits

More than 80% of the students reported doing homework every day. On average, students spent 2.3 hours each day doing homework. They reported spending most of their homework time on math. They also ranked math as their favourite subject (25.5%), least liked subject (20.0%), most difficult subject (18.2%) and easiest subject (30.9%). Students also reported spending a lot of time on English. English was second only to math as least liked subject and it outranked math 2:1 as most difficult subject. English, and to a lesser degree, social studies, were classified as such due to the high reading and writing demands. Table 16 shows students' subject preferences, those subjects they found most difficult and those that required the most time.

**Table 16**

**Students' Preferred School Subjects (in percentage)**

	<u>Requires Most Time</u>	<u>Favourite Subject</u>	<u>Least Liked Subject</u>	<u>Most Difficult Subject</u>	<u>Easiest Subject</u>
<u>math</u>					
%	25.5	25.5	20.0	18.2	30.9
n	14	14	11	10	17
<u>English</u>					
%	21.8	-	9.1	40.0	-
n	12		11	22	
<u>science</u>	-	18.2 %	-	-	-
n		10			

Table 17

Reading Practices (in percentage)

<u>Likes to read:</u>	<u>Yes</u>	<u>No</u>	<u>Sometimes</u>
Percent n	61.8 (34)	21.8 (12)	16.4 (9)
<u>Reads in L1:</u>	<u>Yes</u>	<u>No</u>	<u>Sometimes</u>
Percent n	47.2 (26)	29.09 (16)	14.55 (8)
<u>Reads for:</u>	<u>Pleasure</u>	<u>Study</u>	<u>Both</u>
Percent n	21.8 (12)	16.4 (9)	61.8 (34)
<u>Reads hours/week:</u>	<u>&lt; 1</u>	<u>1 -2</u>	<u>3 -4</u>
Percent n	7.3	29.1	21.8
$\bar{x} = 2.982$			



## Reading

This section presents the results of participants' L2 reading development. First, qualitative and quantitative findings from interviews with students about their reading practices are presented. This is followed by descriptive statistics for students' L2 reading and finally, mean changes in L2 reading from arrival to the spring of 1996 are presented.

### *Reading Practices*

Students were interviewed about their reading habits: whether they liked to read, which language(s) they read in, what they liked to read, how often they read and for what purpose (Table 17).

Most students (83.6%) said that they enjoyed reading. Sixty-two percent reported reading regularly while 16.4% said that they enjoyed reading on occasion. Twenty-two percent said that they did not like to read. It was noted earlier (see Language Dominance p. 57) that approximately half the students (28) reported that they were stronger, or equally strong, readers in L1. A similar number of students, 26 (47.27%) reported that they read regularly in L1. An additional eight students (14.55%) read in L1 occasionally. Sixteen students (29.09%) reported that although they could read in L1, they did not (Table 17).

Students reported spending, on average, 3.0 hours a week reading. While a few (16.4%) students read only to complete homework assignments or to study for tests, 21.8% reported reading for pleasure and most (61.8%) read for both study and pleasure. However, students spent more time per week reading for study purposes ( $\bar{x}$  = 3.25 hours/week) than for pleasure ( $\bar{x}$  = 2.91 hours/week) or for study and pleasure combined ( $\bar{x}$  = 2.94 hours/week). Females read more than males in all categories. The most popular reading materials included magazines (fashion, sports, cars and army), novels - especially mysteries and romances, comics, the

newspaper, texts, poetry, letters, and short stories. When asked if she enjoyed reading, one grade 10 Vietnamese speaking girl responded:

*"Yes. My mom thinks I'm crazy. Sometimes I even read in the dark. Now I need an eye check. My teacher thinks reading helps to learn English but I read for pleasure. Sometimes I learn new vocab or sentence."*

Three other students - two females and one male - claimed they read "Everything," "Anything I can get a hand on" and, "Everything, and in both languages."

Despite this apparent enthusiasm for reading, students were reading below grade level.

Descriptive statistics were calculated for students' scores on the passage comprehension subtest of the Woodcock Reading Mastery Tests - Revised (Woodcock, 1987) taken on arrival and in the spring of 1996 (Woodcock, 1973). Mean performance and the range of reading abilities were compared. Table 18 shows means and standard deviations for students' performance on standardized tests of L2 reading comprehension on arrival and in 1996. A two-tailed *t*-test for paired samples (*n* = 50) showed a significant difference between participants' mean performance on arrival and in 1996 (*t* = -18.46, *p* < .05).

On arrival, students' scores on the passage comprehension subtest ranged from kindergarten to an equivalent of grade level 5.2 (Table 19). The mean grade equivalent was 1.2. At this time, 100.00% of the students scored below grade level. On average, they scored 4.14 grade levels below their age-appropriate grade level. There were no scores for 18 (33.33%) students. Presumably, their proficiency in English was not sufficient to take the test.

In 1996 the mean had increased more than five times from a grade level of 1.2 to a mean grade level of 6.6. The range of reading levels also increased. In 1996, students' reading levels ranged from a low of 2.5 to a high of 12.9. Despite the large

increase in mean performance, most students (92%) continued to score below grade level (Table 19). Of this group, 83% were reading two or more grade levels below the grade in which they were enrolled. After almost seven years of L2 schooling, only four students of 51 scored at (one) or above (three) grade level.

**Table 18**

**Means and Standard Deviations on Standardized Tests of Reading Comprehension**

	<u>n</u>	$\bar{x}$	<u>sd</u>	<u>t</u> , .05, df 49
Arrival	54	.15	.16	
1996	51	.64	.13	
				-18.46*

\*p < .05, two-tailed.

Mean changes in L2 reading by grade level were calculated from arrival to 1996 to investigate the effect of literacy development in L1 on literacy development in L2. Table 20 shows the mean change in performance on the reading comprehension test by grade level. The total mean increase was 5.39 grade levels. Older students showed greater gains than younger students. These findings suggest that older students, those most likely to have developed higher proficiency levels of L1 literacy skills before enrolling in L2 schooling, were applying their knowledge of L1 grammar and syntax to L2. These findings support those of previous research (Cummins, 1981a; Early, 1989; Gunderson, 1995a).

Table 19

**Percentage of Students Reading At Different Grade Levels**

	<b><u>Arrival</u></b> (1990 - 1993)	<b><u>1996</u></b>
	(n = 54)	(n = 51)
<b>Range (in Grade Levels)</b>	0.0 - 5.2	2.5 - 12.9
<b>Below Grade Level</b>	100.0%	92.16%
<b>At Grade Level</b>	0.0%	1.96%
<b>Above Grade Level</b>	0.00%	5.88%

Table 20

**Mean Change in Reading Comprehension by Grade Level**

<b>Grade (1996)</b>	<b><u>n</u></b>	<b><u>Range by Grade Level</u></b>	<b><u>Range of Change in Grade Levels</u></b>	<b><u><math>\bar{x}</math> Change in Grade Levels</u></b>
8	2	5.0 - 9.2	3.6 - 9.2	6.40
9	18	2.5 - 9.2	0.9 - 8.1	4.67
10	21	3.7 - 12.9	2.2 - 10.9	5.35
11	10	4.2 - 9.5	1.7 - 9.5	6.08

Pearson product-moment correlation coefficients were calculated to observe relationships between L2 literacy and academic achievement in English, math, science and social studies (Table 21). Analysis revealed significant positive correlations for performance on L2 compositions with performance in English, science, and social studies -- three key academic courses that commonly require students to show their knowledge of the subject matter through writing. Stronger correlations were obtained for English and social studies than for science and math.

**Table 21**

**Relationships between Performance on L2 Written Composition and Academic Achievement**

	<u>English</u>	<u>math</u>	<u>science</u>	<u>socials</u>
<b>L2 Written Composition</b>	.63***	.34*	.47***	.50***

\*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

**Math**

Correlation coefficients were calculated for performance in math, as measured by grade point average, and performance in science, social studies, English and in L2 reading and writing. Findings showed a strong positive correlation between math grades and science, social studies and English. Weak, yet statistically significant correlations were obtained for math and L2 reading and L2 writing (Table 22)

Table 22

Relationship Between Performance in Math and Performance in Science, Social Studies, English and L2 Reading and Writing

	<u>science</u>	<u>socials</u>	<u>English</u>	<u>L2 Reading</u>	<u>L2 Writing</u>
<u>math</u>	.53****	.59****	.51****	.29*	.34*

\*  $p < .05$ , \*\*  $P < .01$ , \*\*\*  $p < .001$ , \*\*\*\*  $p < .000$

Students' performance on the grade equivalent math tests administered during the assessment session ranged from very poor to exceptional. Table 23 shows the frequency distribution for scores in percentages, including the mean, standard deviation and range of performance.

Table 23

Frequency Distribution for Students' Performance in Math (scores are presented in percentages)

<u>Score (%)</u>	<u>n</u>	<u>Frequency (%)</u>
0	3	5.5
5	3	5.5
10	1	1.8
15	4	7.3
20	1	1.8
25	2	3.6
30	3	5.5
40	1	1.8
45	6	10.9
50	3	5.5
53	1	1.8
55	1	1.8
60	3	5.5
65	3	5.5
70	2	3.6
75	3	5.5
80	4	7.3
85	4	7.3
90	2	3.6
100	1	1.8
Missing Data	4	7.3
$\bar{x} = 48.88$		
sd = 28.81		
Range 0.0 - 100.0		

## Writing

### *L2 Composition*

The mean score for L2 compositions written on arrival was 0.51 ( $n = 55$ ), with a range of 0 - 3 (Table 24). At this time only fourteen students wrote a composition in English. In 1996 the mean score on L2 compositions had increased more than five times to a value of 2.60 ( $n = 47$ ), with a range of 1 - 5. Table 25 shows frequencies for students' scores on native language and English compositions on arrival and in 1996. Interrater reliability ranged from .92 - .98.

As noted earlier (see Language Dominance p. 57) most students considered themselves more proficient writers in L2 than in L1. Analysis of L1 and L2 written compositions provides empirical support for these self-reports. Students' L2 literacy skills were superior to their L1 literacy skills after four years of instruction in English. A two-tailed  $t$ -test for paired samples ( $n = 47$ ) showed a significant difference between participants' mean performance on L1 and L2 written compositions in 1996 ( $t = -3.31$ ,  $p < .05$ ) (Table 24). These findings confirm students' self-reports that they were more proficient writers in L2 than in L1.



Table 24

Means and Standard Deviations for Performance on L<sub>1</sub> and L<sub>2</sub> Compositions

	<u>L<sub>1</sub> Composition</u>		<u>L<sub>2</sub> Composition</u>		<i>t</i> . .05, df 46
	<u>Arrival</u>	<u>1996</u>	<u>Arrival</u>	<u>1996</u>	
n	11	55	55	47	
$\bar{x}$	2.9	1.67	0.51	2.6*	
Range	0 - 5	0 - 4	0 - 3	1 - 5	<i>t</i> . = -3.31

\**p* < .05, two-tailed.

Most students' L<sub>1</sub> writing skills had not improved since they arrived in Canada and began L<sub>2</sub> schooling. Many students were still writing at a level appropriate to the grade level they were in when they emigrated.

Second language composition scores (1996) ranged from 1.0 (poor) to 5.0 (very good), compared with their grade level. Approximately 50% of students' compositions were rated between 1.0 (poor) and 3.0 (average). Forty percent were rated between 2.0 (fair) and 3.0 (average). Only 7.3% were rated good or very good (Table 25). These findings attest to students' self reports of their L<sub>2</sub> writing skills. Although there was marked improvement in their abilities to write in L<sub>2</sub> since beginning L<sub>2</sub> schooling, most students were writing at a level marginally appropriate to their grade level.

Table 25

Frequencies of Students' Scores on L<sub>1</sub> and L<sub>2</sub> Compositions (in percentage)

	<u>Arrival</u>		<u>1996</u>	
	<u>L<sub>1</sub></u> (n = 55)	<u>L<sub>2</sub></u> (n = 55)	<u>L<sub>1</sub></u> (n = 47)	<u>L<sub>2</sub></u> (n = 47)
<u>Score</u>				
0	80.0	74.5	32.73	0.00
1	3.6	9.1	10.91	38.30
2	3.6	7.3	21.82	38.30
3	5.5	9.1	25.45	42.55
4	5.5	0.0	9.09	6.38
5	1.8	0.0	0.0	4.25

Summary

Most students believed that they were stronger readers in L<sub>2</sub> than in L<sub>1</sub>. Approximately 62% of students interviewed reported that they enjoyed reading. Students read, on average, between one and two hours a week. They read both for pleasure and study. Mean changes in L<sub>2</sub> reading comprehension by grade level were calculated from arrival to 1996 to investigate the effect of literacy development in L<sub>1</sub> on literacy development in L<sub>2</sub>. The mean change in reading comprehension was 5.39 grade levels, with older students showing the greatest gains. It appears that older students, those likely to have had better developed literacy skills when they started schooling in L<sub>2</sub>, were applying their knowledge of grammar and

syntax in L1 to learning L2. Still, most students were reading two or more grade levels below the grade in which they were enrolled, as measured on a standardized test of reading comprehension.

When asked what helped them to learn English, many students replied 'reading'. 'Read more' was also what most students claimed they would do differently if they were starting over; reading was also among their advice to new ESL students. The next section presents a qualitative analysis of students' perceptions of learning English, ESL classes and some social aspects of L2 schooling, including their advice to incoming ESL students.

### **Students' Perceptions of ESL classes and what helped them to learn English**

The next section presents qualitative findings from interviews with students about their perceptions of ESL classes and other factors they felt helped or hindered their acquisition of L2 and academic achievement.

Students expressed mixed feelings about ESL classes. However, most (76%) students felt that ESL classes had helped them to learn English. Students' comments were generally favorable.

*"ESL is kind of a good program. It lets some lower level students have an easier time and it covers the same material but it's easier so it's good."*

(Grade 11 Taiwanese speaking male )

*"I guess it all depends on how you take it. To me it is good stuff."*

(Grade 11 Mandarin speaking male)

The main theme that emerged regarding the benefits of ESL classes was the pace. Students remarked on the slower pace of ESL classes. They felt that ESL

teachers introduced concepts slowly and used easier vocabulary than that used in mainstream classes.

As one grade 11, Taiwanese speaking male noted:

*"The teacher uses lower level English so you can understand easier. The materials are easier and the teacher gave a lot of time for us to absorb those materials."*

A grade 10 Spanish speaking male remarked:

*"It was slow and then got faster. You got to the spot, you know, where it stays there. That's when I got moved to regular classes."*

A grade 10 Cantonese speaking male student reflected on his own experiences:

*"They [ESL classes] are slower. You don't progress as fast. They concentrate on English more than other subjects. If I went into regular right away I don't think I could keep up. It gives you good firm and fundamental skills."*

Other students commented on the relaxed, "safe" atmosphere of ESL classes as an environment conducive to learning:

*"[ESL class is] less stressful than regular class because everyone is ESL and the courses are easier to start with."*

(Grade 10 Mandarin speaking male)

*"It sort of provides a place where you don't feel isolated. ESL was a time to relax basically. The pressure was off and you could be yourself."*

(Grade 11 Mandarin speaking male)

*"It depend. When you uncomfortable in that class you never speak a word. If you are comfortable, then you speak a lot. I had lots of friends in ESL and I speak a lot. In grade seven I had no friends and I didn't speak a word."*

(Grade 10 Vietnamese speaking female)

Students expressed mixed feelings about speaking L1 in ESL class. Some perceived the use of L1 as a strategy to learning English:

*"I had a friend that knew both language before me and he helped me. He was in ESL too."*

(Grade 9 Mandarin speaking male)

*"I met friends who spoke my language and they helped me. They introduced me to read [English] books and stuff."*

(Grade 8 Mandarin speaking female)

Others saw the use of L1 as a barrier to learning English:

*"Even though they [ESL classes] encourage you to speak, everyone around you speaks Cantonese so you can't really learn much."*

(Grade 9 Cantonese speaking female)

*"It was better when I went to regular. In ESL most of the kids spoke Chinese and they spoke their own language. In regular everyone spoke English, it wasn't just me."*

(Grade 9 Pushto speaking male)

Two grade 11 female students believed they had an advantage over other students in learning to speak English as they spoke a different L1 from their classmates.

*"In my class I was the only one who spoke my language and my friend she spoke her language so we had to speak English to communicate and that helped. I had no other way of communicating with other people so I had to speak English.."*

(L1: Polish)

*"The reason I learned so quickly was because I was the only one from a different place. Like, I didn't speak Chinese, right, so I couldn't speak my language with any other person. So I think that really helped."*

(L1: Twi)

There were also those who were ambivalent. They could see the need to practice English and yet also noted the usefulness of having the help of those who could speak both languages:

*"Students spend too much time speaking in L1. The teacher should be more strict and expect them to do more writing in English. An ESL teacher who can speak Chinese helps a lot."*

(Grade 9 Cantonese speaking male)

*Students seemed quite aware of the need to develop good writing skills. "I think they're [ESL classes] good for new students. They should emphasize speaking and participating because these are really important in regular class and, of course, writing. My own classes could have been more supportive in this way."*

(Grade 10 Mandarin speaking male)

*"It [ESL class] helped you with speaking more than with writing. It does help with writing but not as much."*

(Grade 9 Cantonese speaking male)

One grade 11 Spanish speaking male summed it up when he said,

*"You learn most of your English from your friends in the street but then in class it's more formal. There are little things you learn in class - like vocab and grammar. With your friends you learn how to speak it but not how to write it, right?"*

Other factors students felt contributed to learning English were: TV, friends and sports. When asked what they would do differently if they were starting all over as new learners of English and had the benefit of the experience and knowledge they now have, they replied:

*"Let students learn more vocabulary and grammar and organization and everything about writing, especially essays. It's really helpful. Start slowly and move step by step."*

(Grade 11 Mandarin speaking male)

*"Watch TV."*

*"Sports. That's when you have friends and you get to be a part. It'd be a lot harder without friends."*

(Grade 11 Mandarin speaking male)

*"Just speaking and reading helps."*

(Grade 10 Cantonese speaking male)

*"Vocabulary. My tutor gave me a vocabulary book with exercises. Doing exercises and quizzes helped. The best is to use the new vocabulary more often so you can do it better and they are appropriate."*

(Grade 11 Taiwanese speaking male)

*"Try to read more English books. Try to make friends who speak English. It's hard and takes time but it is good."*

(Grade 9 Cantonese speaking male)

*"Be around people who speak English. Sport is very important because you meet friends when you play sports."*

(Grade 10 Mandarin speaking male)

Female students commented frequently on the need to develop confidence to succeed at school both socially and academically. Male students referred to the positive effects of becoming involved in sports. Male and female students recommended reading, *'lots of reading'*, as an effective strategy for acquiring and improving L2 proficiency. Some said that advising students to read was their personal opinion whereas others said it was what had been told to them. The most common opinion students gave for success, shared equally by males and females, was the need to acquire friends, preferably those with whom they could speak in English. In retrospect, many students commented that, if they were starting over, they would make more of an effort to use English from the beginning. They suggested making friends with students who speak English or who do not speak the same L1 as themselves. They also recommended becoming involved in extracurricular activities such as choir and sports as strategies for creating opportunities to use English and, consequently, improving their English language proficiency. Their advice to incoming ESL students was:



*"Learn as much as you can in both languages. They'd have to learn first in L1 and then translate. Don't get behind in learning just because you have a language problem. Don't be afraid to ask [teachers and friends] for help."*

(Grade 10 Tagalog speaking male)

*"I'd tell her to go to the library and go the park and read books and to ask people, not to be afraid to ask questions."*

(Grade 10 Vietnamese speaking female)

*"Make more friends. Try to make friends first then learn the language so you can get help from your friends. Maybe start to communicate with the teachers and other students. Don't try to be so afraid of speaking English and try your best."*

(Grade 10 Cantonese speaking female)

*"Stay more with natives - the ones born here. And I would definitely say read. Talk more and read more. If you work on these two things it's going to be fine."*

(Grade 10 Cantonese speaking male)

*"To get more involved in the student body. To watch more TV, in English, that is. I think that really helps."*

(Grade 10 Cantonese speaking male)

*"Tell him to join some sports 'cuz it really helps you to fit in."*

(Grade 11 Mandarin speaking male)

*"Don't speak Chinese Try not to speak [L1] as much as possible. Get involved in school activities, it helps you be more open. After you have confidence you're faster to accomplish stuff. Don't worry about things that much."*

(Grade 10 Mandarin speaking female)

*"Read more. Try not to speak so much Cantonese."*

(Grade 9 Cantonese speaking male)

*"I'd tell her to speak English and try to understand. To read a lot, watch TV and speak with other people and let them help you."*

(Grade 11 Polish female)

*"Books [help]. My mom got me a library card right away. Sports. Anything that gets you hyper and gets the adrenaline running. It gets you talking to your friends."*

(Grade 10 Tagalog speaking male)

Most students, although not as many (54.5%), felt that ESL classes had helped them in other subject areas. Those who did not feel that ESL had helped prepare them for mainstream classes were unable to articulate their reasons. Most of their responses took the form of:

*"I don't think so."*

*"Not really."*

*"A little bit, I guess."*

Students who agreed that ESL had indeed helped them to achieve in mainstream classes noted:

*"For social studies, the [ESL] teacher explained more in depth if you don't understand and you ask."*

(Grade 11 Taiwanese male)

*"Yes. [ESL class] gived me a better understanding of the subject."*

(Grade 11 Cantonese speaking male)

*"Yes. Well, um, in ESL I learned a little bit before I went into regular classes so when I went into regular classes I knew a little bit about those things already."*

(Grade 9 Vietnamese speaking female)

*"Yeah, because you still have to use English in social studies and science, right?"*

(Grade 9 Cantonese speaking female)

### **Summary**

Most students believed that ESL classes had helped them to learn English. They commented specifically on the benefit to learning English of the slower pace of ESL classes and teachers' use of comprehensible vocabulary. Students also considered ESL class a place where they felt comfortable with, i.e., not inhibited by, their limited proficiency in L2. Students voiced conflicting opinions about the use of L1 in ESL class. Some found it useful while others felt it reduced the need to practice English. Many students reported the need for more explicit grammar instruction. They observed that there was a lack of native-like models from which to learn English. Most students recommended that to learn English, ESL students

must search out opportunities to interact in English. They suggested making friends with someone who did not share the same L1, joining sports clubs and becoming involved in activities outside school time and reading in English as effective strategies for increasing the rate and the level of English proficiency attained.

## CHAPTER FIVE

### RESULTS AND DISCUSSION

#### **Introduction**

This chapter presents an overview of the study followed by a discussion of the research findings and their implications for further research. Finally, the limitations of the study and recommendations for further research are discussed.

#### **Problem**

Immigrant and refugee children entering many North American schools are challenged with the multiple task of learning to communicate in English at the same time they need to use English to learn the curriculum. Learning to read in L2 is vital to the academic success of nonnative English speaking students. Indeed, research findings show that ESL students commonly read at a level two or more years behind their native English speaking peers (Cummins, 1981a; Early 1989; Gunderson 1995a). Much of what we know about the process of learning to read in L2 is adopted from research findings of studies on L1 learners. Such research does not account for the diversity of nonnative English speakers' backgrounds. In particular, L1 literacy and educational variables present a composite that affects the process of learning to read in L2 and, consequently, academic success. However, there is little research that examines the role of background variables in L2 reading.

#### **Background**

The most critical task facing school-age L2 learners in North America is learning to read in English (Collier, 1987; Gunderson, 1995a,b; Olson, 1992;

Verhoeven, 1990; Wong-Fillmore, 1983). Learning to read in English is central to L2 learners' academic success, print being the medium through which most academic information is conveyed. Olson (1992) holds that "The ability to read critically is an important part of first and second language literacy" (p. 21). Collier (1987) notes the need for ESL students to acquire proficiency in L2 in all language domains and skill areas and in a variety of contexts. She succinctly writes that "Language is the focus of every content-area task, with all meaning and all demonstration of knowledge expressed through oral and written forms of language" (p. 618). To date, theories of L2 reading instruction are based largely on theories and models of the L1 reading process. Grabe (1991) suggests that "A primary goal for ESL reading theory and instruction is to understand what fluent L1 readers do, then how best to move ESL students in that developmental direction" (p. 378). However, not all L2 learners are the same. Second language learners represent an array of cultural, linguistic and educational experiences, all of which affect learning to read in L2. Second language learners' L1 literacy and educational experiences - or lack of experiences - form the foundation for all their future learning. Some individuals have had extensive schooling in L1 before enrolling in L2-only schooling. Others have suffered interruptions to their schooling - usually due to unstable socio-political situations in the countries from which they emigrated - and still others have never been to school. Similarly, L2 learners represent a wide range of L1 literacy abilities, ranging from no L1 literacy to highly developed literacy skills. Bernhardt (1991) notes that "the distinction between first and second language reading processes appears first, among readers who are already literate in one language and try to become literate in another" (p. 76).

First language literacy background is significant in learning L2. Indeed, Robson (1981) found that L1 literacy was more significant than L1 education in predicting the success adult L2 learners had in acquiring L2 reading. On the other

hand, Gunderson's (1995b) results showed that the number of years of schooling in L1 was a better predictor of learning to read in L2 than L1 literacy. Second language learners' L1 literacy and education in L1 greatly affect the process of acquiring L2. Research shows that cognitive development and the level of proficiency attained in L2 is partially a function of L1 proficiency (Collier, 1989; Cummins, 1979, 1981a,b,c; Skutnabb-Kangas & Toukomaa, 1976). Learners with well-developed L1 cognitive abilities appear to learn at a faster rate and attain higher levels of proficiency in L2 than learners who have not acquired sufficient levels of L1 proficiency. Second language learners' cognitive development in L1 and knowledge of L1 literacy serve as a base on which to scaffold new knowledge in L2 and L2 literacy skills. Proponents of the Common Underlying Proficiency (CUP) model and Linguistic Interdependence Hypothesis (LIH) claim that there is a dimension of language proficiency that is common to, or interdependent across languages. That is, there are features or aspects of language proficiency that are interdependent and can transfer across linguistic systems. The interdependence hypothesis and CUP model posit that cognitive development and literacy skills learned in one language transfer to other languages, enhancing the rate and level of proficiency attained in the new language. Thus, the LIH predicts that cognitive and linguistic development in L2 is partially a function of the level of cognitive development in L1 (Cummins, 1979, 1986; Skutnabb-Kangas & Toukomaa, 1976). There is an increasing body of research that provides empirical support for a common underlying proficiency.

Collier and Thomas' (1987, cited in Olsen & Leone, 1994) study of the length of time it takes students to acquire proficiency in L2 sufficient to compete with their native speaking peers showed that students with two to three years of L1 schooling required considerably less time than students with no schooling in L1. Royer and Carlo (1991) showed that L1 reading and listening skills transferred to L2, whereas

general linguistic ability did not. Gunderson (1995b; in press) studied the background variables of approximately 25,000 L2 learners to observe their effect on L2 reading and academic achievement in L2-only schooling. He showed that L2 learners' L2 background is significant in predicting L2 reading. Many L2 learners have studied English in L1 before enrolling in L2 schooling. Interestingly, Gunderson's results showed that variables predictive of reading in L1 such as knowledge of the names of the letters of the alphabet in English, are not as good at predicting reading comprehension for L2 learners as for native English speaking students. He found that knowledge of prepositions is a more powerful predictor of L2 reading. These findings provide empirical evidence that opposes Grabe's (1991) theoretical proposition that L2 reading instruction be modeled after L1 instruction. Using Factor Analysis, Gunderson identified three highly related factors: a Recognition Factor, a Comprehension Factor and a Composition Factor, all of which support the notion of a common underlying proficiency.

### **Study**

Seven high schools were selected from a cross-section of the Vancouver School District. Data were collected in four categories. First, baseline data were collected and coded at the Oakridge Reception and Orientation Centre when families enrolled their children in the Vancouver School District. Demographic data and information about the students' language development and L1 education were obtained during family interviews conducted in the family's L1. Students' L2 proficiency, L1 and L2 literacy and math abilities were assessed using a battery of standardized and holistically scored measures.

The second category of data concerned students' opinions of their L2 development. A twenty-eight item semi-structured interview protocol was used to interview students individually in English. The interview protocol was designed to



explore students' use of first and second language, reading habits in L1 and L2 and homework patterns. It also considered students' perceptions of some factors that helped or inhibited their L2 development and academic achievement.

Four instruments comprised the assessment battery, the third category of data. Formal group assessment of students' English reading comprehension, first and second language writing and Math performance was conducted from January to June 1996. First, the Passage Comprehension subtest of the Woodcock Reading Mastery Test/Form A (1973) was used to assess students' reading comprehension in English. The test was modified to conserve time. Because students taking the test were in grades eight to eleven, the first 26 questions (31%) were eliminated; the test began with item 27, estimated to be the equivalent of a mid grade one level of reading comprehension (Woodcock, 1973). Also, the test was modified to be administered to groups in a written format (Tuinman, Kinzer & Muhtadi, 1980). Second, four criterion-based standardized Math tests (grades 8, 9, 10 and 11) were used to assess students' mathematics abilities. All tests, developed collaboratively by district math and ESL teachers to include components representing the major concepts students need to know to function at or above the specified grade level, were multiple-choice.

Third, L1 and L2 writing ability was assessed. English (L2), compositions comprised six prompts: two written prompts and four pictures, each with a caption. Students were asked to choose one prompt and to write a composition in English based on the prompt. There were no prompts for the L1 composition. Students wrote on a topic of their own choosing. The final category of data was academic achievement. Grade point averages were calculated for students' final grades in English, math, science and social studies.

## **Participants**

Participants were fifty-five students (31 males and 24 females) who had enrolled in the Vancouver School District, Vancouver, British Columbia between 1990 and 1993 and were between the ages of eight and twelve on arrival. All participants had remained in the Vancouver School District since registration and were enrolled in grades eight to eleven at the time of the study. All students had a minimum of four years of schooling in Vancouver. Among them they spoke thirteen different L<sub>1</sub>s and came from fourteen different countries. The immigration status of students' families ranged from entrepreneur, to landed immigrant, to refugee, to Canadian citizen.

## **Findings and Discussion**

Students spent, on average, 2.36 years in ESL after enrolling in L<sub>2</sub>-schooling. Cummins (1979, 1981a,b,c, 1984, 1986) identified two categories of language proficiency, BICS and CALP. The first category of language, BICs, refers to the oral aspects of language used in interpersonal situations and, Cummins claims, is acquired in approximately two years. On the other hand, CALP, aspects of language proficiency associated with literacy-related language skills, takes, on average, five to seven years to acquire. Findings from this study suggest that all students, despite L<sub>1</sub> literacy and educational background experiences, stayed in an ESL program until they had acquired BICs. For most, this was approximately two and a half years.

Participants in this study enrolled in Vancouver schools between the ages of eight and twelve. All students began ESL in elementary school. By the time they entered high school, many students had exited ESL. Most students felt that ESL

classes had helped them to learn English. Fewer, believed that ESL had helped to prepare them for other content-area subjects such as Science or social studies.

### **Previous Education in L1**

Collier and Thomas (1987, cited in Olsen & Leone, 1994) found that students with two to three years of schooling in L1 attained higher levels of L2 proficiency more quickly than students who had no L1 schooling. Thus, it was hypothesized that students who had attended school in L1 would spend less time in ESL than students who had no L1 instruction or whose L1 instruction had been interrupted. Pearson product-moment correlations showed no significant relationship between the time students spent in ESL and years of L1 schooling. All participants for whom data were available reported having attended school in L1 before enrolling in L2 schooling. The type and duration of schooling varied. Schooling in the L1 ranged from two to eight years with an average of 4.7 years. Students reported having attended schools in urban (52.7%), rural (3.6%), refugee (7.3%) and private situations. (18.2%). Data were missing for ten students (18.2%). The average number of years spent in ESL was 2.36, ranging from less than one year to more than six years.

Ten students were identified who spent five or more years in ESL. Forty percent of these students had immigrated with refugee status. It is likely, therefore, that their L1 schooling had been interrupted due to unstable socio-political situations from which they emigrated. According to one Vietnamese girl's report, her schooling took place two hours a day for three years while in a refugee camp in Hong Kong. Other students in this 'late exit group' reported having moved two or more times before settling in Vancouver. Their schooling during the move, if they had any, was interrupted and sometimes the language of instruction was different from both their L1 and English.

Further analyses of the relationship between number of years of L1 schooling and students' achievement in English, social studies, math, science, L2 reading comprehension and L2 and L1 writing were conducted. Pearson product-moment correlations showed statistically significant negative relationships between years of L1 schooling and achievement in English, science, social studies, L2 reading comprehension, L2 and L1 writing. The strongest relationships were found for L2 reading (.50) and writing (.58), science (.48), English (.41) and socials (.38), with alpha set at 0.5. These findings suggest there is a common underlying proficiency between cognitive and linguistic development in one language and cognitive and linguistic development in L2.

Results from correlational analysis of years of L1 schooling and time spent in ESL do not support the earlier findings of Collier and Thomas (1987). No significant relationship was observed for years of L1 schooling and time spent in ESL ( $-.11, p < .05$ ). It is likely that the independent variable years of L1 schooling, was not sufficiently defined. For example, a student having attended school for three years in a refugee camp was not differentiated from a student who had received three years of private tuition. Student interviews revealed that going to school in a refugee camp may have consisted of two hours of instruction per day, four days per week. Students reported that in many Asian countries they went to school more than six hours per day, six days per week. Variables such as the number of school hours per day, days per week, and the number of students per class potentially affect the quality of L1 schooling, thus affecting the rate and level of L2 proficiency attained. Therefore, it is recommended that further studies investigating the effect of L1 schooling on achievement in L2 consider the impact of such variables.

## **Previous English Study**

The second Previous L1 Education hypothesis predicted that students who had studied English before enrolling in L2 schooling would spend less time in ESL than students who had no previous English study. Sixty-nine percent of the participants reported having studied English before immigrating. The number of years students had studied English ranged from none to seven years, with an average of two years. Analysis by ANOVA showed a significant difference in L2 reading comprehension due to years of English study ( $F(7,43) = 4.26, p = .0012$ ). Mean scores on the test of L2 reading comprehension increased from one to six years of study after which they decreased.

Of the ten students who stayed in ESL for five or more years, half had no previous English study and an additional four students had only one year of English study. Thus, 90% of the students who were having trouble acquiring L2 had one or fewer years of English study before enrolling in L2 schooling. It appears that even basic instruction in English at a young age helps students to achieve in an L2-only program.

## **L1 Literacy**

The first L1 literacy hypothesis proposed that students who were literate in L1 on arrival and had maintained L1 literacy skills would score higher in L2 reading comprehension than students who had not maintained literacy in L1. A weak positive correlation was obtained for years of L1 schooling and L1 literacy ( $.36, p < .05$ ). A weak negative correlation was observed between years in ESL and L1 literacy ( $-.33, p < .05$ ). Thus, students who had been to school in L1 had acquired some degree of proficiency in L1 literacy and were able to transfer their knowledge of L1 literacy to acquiring literacy skills in L2. It appears that students who had mastered the mechanics of reading and writing in their L1 and understood the

purpose of literacy were transferring this knowledge when attempting to become literate in L2.

Seventy-one percent of students reported that they were stronger writers in L2 than L1. The remaining 29% believed that their L1 writing proficiency was either superior or equal to their ability to write in L2. However, analysis of L1 and L2 compositions revealed that most students had not continued to develop their L1 writing skills. In fact, in the spring of 1996, nineteen students were unable to write a short composition in their L1. Students' L2 literacy skills were significantly more developed than their L1 literacy skills after a minimum of four years of L2 schooling ( $t = -3.31, p < .05$ ).

Approximately 70% of the students felt that their L2 writing skills needed improving. They reported experiencing occasional difficulty expressing themselves in writing in L2. Consequently many students said they felt they had a better chance of getting a good grade on a multiple-choice type test than on one that required them to answer in prose. Analysis of their L2 compositions showed that, indeed, written expression in L2 was a challenge for most L2 learners.

Students voiced concern for the lack of native English speaking models and the lack of formal grammar instruction in school. They felt that their vocabulary and grammar were not developed sufficiently for them to compete on academic entrance exams to universities and colleges. A study of the development of French immersion students' communicative competence led Harley (1990) to conclude that L2 learners develop proficiency in L2 as a function of the interactions that they experience in their languages. Interviews with students indicate that the number and variety of opportunities for interactions in English are limited. Despite the diversity of L1s spoken in Vancouver schools, a situation which potentially encourages students to use L2 as it is the common language for most, students reported having plenty of opportunity to use their L1s and did not feel much need

to communicate in English orally or in writing, outside the classroom. Collier (1987) writes that "L2 is acquired to varying degrees of proficiency depending on the context in which the acquirer needs to use it" (p. 618). Based on students' self-reports of their use of L1 and L2 and the frequency with which they reported being assessed using multiple-choice type exams it seems there is very little need to use L2, particularly written L2. Students are not required to write in L2 often enough for them to develop their literacy skills such that they feel confident to express themselves in writing in English. Analysis of L2 compositions suggests that L2 learners in Vancouver schools are not developing expressive language skills in English.

Loban (1963) noted in his findings of a longitudinal study of the language of elementary school children that differences in students' uses of structural patterns were not necessarily notable. However, there were marked differences when comparing low and high groups. He concluded that *"Not pattern but what is done to achieve flexibility within the pattern* proves to be a measure of effectiveness and control of language" (p. 84, emphasis in original). Similarly, students in the present study who scored high on the L2 compositions made grammatical errors comparable to those of students who received lower scores. However, it was what they did with the language despite the grammar that was notable. That is, the content of their compositions was sufficient that the reader focused her attention on content as opposed to the grammar. Students receiving both high and low scores seemed aware that they were making grammatical errors. They felt that they had reached a plateau in their learning and were not improving grammatically. They knew they were making mistakes but were not sure of how to correct themselves. One grade 10 Cantonese speaking male student so clearly articulated:

*"I didn't know what type of errors there are so I kept on writing it and the teachers kept on marking me wrong."*

The second L1 literacy hypothesis states that orthographic similarity between L1 and L2 is not a predictor of L2 reading achievement. Mean scores on the passage comprehension of the Woodcock Reading Mastery (1973) were compared for students whose L1 is orthographically similar to English, for example, Tagalog and Spanish and students whose L1 is orthographically different from English, for example, Cantonese and Twi. No significant difference was found for the two groups ( $t = .105$ ,  $p = .747$ ). Based on these findings it appears that orthographic similarity is not a predictor of L2 reading achievement. However, I caution against drawing conclusions based on this small sample. In this study students with an L1 orthographically different from English were more likely to have landed immigrant status, to have been schooled in L1 longer and to have studied English before immigrating than were students whose L1 was orthographically similar to English. To assess the effect of orthographic similarity and difference on L2 acquisition, it would be better to conduct a more detailed tracking study during which samples of students' L2 writing was obtained and assessed at different developmental stages.

### **L2 Literacy and Academic Achievement**

L2 literacy and academic achievement hypothesis states that students who have well developed expressive language skills will be more successful academically than students who have less developed expressive language skills. L2 compositions were considered a measure of students' expressive language. Pearson product-moment correlations were conducted to observe relationships between L2 writing ability and achievement in key academic courses and L2 reading comprehension. Strong positive correlations were found for L2 composition and achievement in English (.63), L2 reading comprehension (.53), social studies (.50) and science (.47), with alpha set at .001. English and social studies traditionally



require more reading and writing than other subjects. It is not surprising, therefore, that there was a high correlation between these subjects and L2 reading and L2 writing abilities. Furthermore, students who considered English and socials their least favourite subjects offered the reading and writing demands as a reason for disliking these subjects.

A grade 10 Cantonese speaking male commented:

*"I don't like English. Not all part of English, I like poetry unit and some creative writing units. I think I don't like it because I don't really write well and Social studies. I don't like Social studies and it takes me forever."*

A grade 9 Tagalog speaking female said:

*"English is most difficult because writing paragraphs and I don't know where to put the grammars."*

Another grade 9 Cantonese speaking female reported that English required the most time, was the most difficult and her least liked subject:

*"English [takes the most time] when I'm writing a project or an essay. I have less vocab and sometimes have problems putting my thoughts to paper."*

A weaker positive correlation was obtained for L2 writing and math (.34,  $p < .05$ ). The strong correlations between proficiency in L2 writing and reading and four critical academic courses emphasize the need for L2 learners to develop proficiency in L2 reading and writing to achieve academically in an L2-only program.

## **Summary and Conclusion**

The present study investigated refugee and immigrant students' educational and literacy backgrounds and their effect on learning L2 while using that language (L2) to learn new subject material. In particular, the study examined the relationship between: the number of years students had attended school in L1 and the length of time they spent in ESL classes; the number of years students had attended school in L1 and academic achievement; the effect of studying English before enrolling in L2 schooling on the length of time students spent in ESL classes; and, the effect of studying English before enrolling in L2 schooling on academic achievement. Also considered were changes in students' L2 reading and writing after a minimum of four years of L2 schooling and the role of orthographic similarity and difference between L1 and L2 and the nature of L2 reading development. Students' L1 and L2 reading practices, study habits and their perceptions of some factors that helped or inhibited their L2 development and academic achievement were described.

Findings from the present study support those of previous research. Second language learners spend, on average, two and a half years in ESL during which time they appear to acquire proficiency in oral aspects of language required for interpersonal communication. Students take longer, more than four years of instruction in English, to achieve grade level proficiency in L2 reading and writing. All participants showed gains in L2 reading comprehension after a minimum of four years of L2 schooling. However, most were reading at two or more grade levels below the grade in which they were enrolled. Students experienced problems expressing themselves in writing in L2. The level of proficiency L2 learners acquire in different language domains and skill areas is partially a function of their need to use the language and the interactions that they have with the language. With the recent increase in the number of L2 learners enrolling in

Vancouver schools, there is a noticeable lack of native English speaking models. The absence of native-like models limits opportunities for students to interact in L2. Students' writing showed that they are not acquiring knowledge of the linguistic forms of L2 at an age-appropriate level. This has serious implications for students planning to continue their studies at the college or university level. Many students feel they would benefit from more explicit grammar instruction.

First language literacy and educational background has a significant effect on learning L2. Second language learners' L1 educational backgrounds had a positive effect on their acquisition of L2 and their academic achievement. Students who performed well in L2 reading and writing also achieved highly in key subject areas such as English, social studies, science and math. Students who had been schooled in L1 had also acquired proficiency in L1 literacy skills. These students spent less time in ESL than students with less advantaged L1 educational and literacy backgrounds. Results of this study support the notion of a common underlying proficiency. The level of proficiency in L1 literacy that students had attained before commencing L2 schooling enhanced the rate and level of their L2 literacy development.

Most L2 learners despite their L1 educational and literacy backgrounds, are placed in ESL classes when they enroll in L2 schooling. After four or more years, students showed gains in their L2 reading and writing proficiency. Except for students at the 'high' and 'low' ends of the spectrum, there were no notable differences in students' progress. It seems that most students benefited, to some degree, from the current program. However, it is likely that more students would have achieved greater gains in L2 proficiency if instruction on arrival were different depending on students' L1 school experiences. Findings from this study showed a relationship between students' L1 schooling and L1 literacy. Students who had not acquired L1 literacy skills had to learn the mechanics of reading and writing and

the functions of literacy in English. Their needs were different from those of students who had extensive schooling in L1 and had well developed L1 literacy skills.

### **Limitations**

This study was designed to investigate the reading development and academic achievement of fifty-five ESL students in the Vancouver School District. All participants were between the ages of eight and twelve years at the time they enrolled in the district. All participants were enrolled in at least their fourth consecutive school year in the Vancouver School District. The sample selected is reflective of students who meet these criteria. Findings from this study cannot be generalized to student populations from different districts and with different AOA and LOR.

A study of the effect of immigrant and refugee students' backgrounds and their affect on learning L2 is complex. The present study attempted to observe relationships between students' L1 educational and literacy backgrounds and the length of time spent in ESL. First language educational background was measured as the number of years students had attended school in L1. This is only a very crude measure as variables such as the number of school hours per day, and days per week, the number of students per class and the language of instruction all interact to determine the quality of a year of instruction. Further studies of the effect of L1 schooling on L2 achievement should consider these variables in the definition of a construct of L1 schooling.

Fifty-five students participated in this study. Among them they spoke thirteen different L1s. Therefore, there were only a small number of students in any one language group. Analysis of data by L1, for example, was not possible. Such analyses may prove interesting, however, and should be considered for future

research. A larger sample is necessary to observe differences due to traits such as: gender, immigration status, L1 and, country of origin, for example.

### **Suggestions for Further Study**

The results of the present study suggest:

1. There is a need for large scale studies to explore the diversity within the population called ESL.
2. There are a large number of variables which interact, influencing students' acquisition of L2 and their academic achievement. Further studies investigating the effect of background variables on L2 acquisition should consider such variables as L1, L1 schooling and gender, for example.
3. Case study research of students such as those who exited ESL in the early and late groups are needed to gain an in-depth understanding of why some students seem to be more resilient learners than others. Similarly, there are a few students whose L1 literacy and educational background experiences are limited and yet they acquire L2 and achieve in L2 schooling, nevertheless. Further investigation of these students' learning processes may provide insight into the process of L2 acquisition and academic achievement.

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**APPENDIX 1**  
**INTERVIEW PROTOCOL**

Name: \_\_\_\_\_ Date: \_\_\_\_\_

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

- 1) In which language are you strongest at:  
(a) speaking  
(b) reading  
(c) writing
- 2) How often do you:    use L1:                      use L2:  
                                  (a) all the time      (a) all the time  
                                  (b) 1/2 the time    (b) 1/2 the time  
                                  (c) seldom            (c) seldom
- 3) With whom/in what situations do you use L1:
- 4) With whom/in what situations do you use L2:
- 5) Do you enjoy reading?
- 6) In what languages do you read?
- 7) For what purpose(s) do you read?  
(pleasure, study)
- 8) What do you read?  
(texts, magazines, books, letters)
- 9) How many hours/day (week?) do you read?
- 10) Do you believe that knowing how to read in L1 has helped you to learn to read in L2? Why/why not?  
                                  In what ways?

- 11) When you experience difficulty in school who helps you?  
(parent, sibling, peer, teacher)
- 12) How do you get help?
- 13) Have ESL classes helped you:  
(a) to learn English?  
(b) with your course work?
- 14) What is your opinion/comments of ESL classes?  
--If student responds that s/he didn't like/value ESL, what suggestions  
would s/he make to improve the ESL services for incoming students?
- 15) What has helped you the most in learning English?
- 16) What has helped you the most with school work?
- 17) How many hours/day do you spend doing homework?
- 18) Which subjects require the most time?
- 19) What is your favourite/least liked subject? Why?
- 20) Which subjects are easiest? Why?
- 21) Which subjects are most difficult? Why?
- 22) On what type of tests do you do best? Why?  
(multiple choice, essay, problem solving, fill in the blank)
- 23) Are you able to express yourself adequately on tests and assignments?
- 24) Do you think you are a good student? Why/why not?
- 25) What were the most difficult things to get used to (in Canadian schools)?
- 26) What advice would you offer a new ESL student?
- 27) What would you do differently if you could start over?
- 28) What are your plans for the future/after graduation?

**APPENDIX 2**

**FIRST LANGUAGES CONSIDERED ORTHOGRAPHICALLY SIMILAR TO  
AND DIFFERENT FROM ENGLISH**

<u>Orthographically Similar L1s</u>	<u>Orthographically Different L1s</u>
Polish	Cantonese
Spanish	Chu Chow
Tagalog	Hakka
Vietnamese	Japanese
	Mandarin
	Pushto
	Taiwanese
	Tamil
	Twi