

THE ENGLISH LANGUAGE SKILLS OF MINORITY LANGUAGE CHILDREN IN  
FRENCH IMMERSION PROGRAMS: A FOLLOW-UP INVESTIGATION

by

JACQUELINE ANN CARDWELL

B.A., University of British Columbia, 1987

A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS  
FOR THE DEGREE OF MASTERS OF SCIENCE

in

THE FACULTY OF GRADUATE STUDIES

School of Audiology and Speech Sciences

We accept this thesis as conforming  
to the required standard

THE UNIVERSITY OF BRITISH COLUMBIA

October, 1989

© Jacqueline A. Cardwell, 1989

In presenting this thesis in partial fulfilment of the requirements for an advanced degree at the University of British Columbia, I agree that the Library shall make it freely available for reference and study. I further agree that permission for extensive copying of this thesis for scholarly purposes may be granted by the head of my department or by his or her representatives. It is understood that copying or publication of this thesis for financial gain shall not be allowed without my written permission.

Department of Audiology & Speech Sciences  
The University of British Columbia  
Vancouver, Canada

Date October 12, 1989.

**ABSTRACT**

The purpose of this investigation was to re-evaluate the English language skills of a group of minority language children enrolled in French Immersion programs (experimental group) in order to establish whether these skills have been maintained, are better, or worse than the same skills in English children in French Immersion (English control group) or minority language children enrolled in regular English programs (minority control group). Of the original thirty children who participated in Davies' (1985) investigation, seven experimentals, seven minority controls and nine English controls were located again and able to participate in the 1989 follow-up study. English language comprehension was assessed using two standardized tests of English comprehension (the Peabody Picture Vocabulary Test-R, and the Token Test for Children). Similarly, English metalinguistic skills were evaluated using two standardized tests which tap metalinguistic awareness at both the lexical and structural level (the Test of Language Competence and the Word Test). Finally, English language production was evaluated based on a picture-description sample elicited from each child. It was hypothesized that the English language skills of minority language children in French Immersion would, as was the case in 1985, continue to be as good as those of the English control and minority control groups. The results confirmed this hypothesis. In addition, the results showed the experimental group to be performing significantly better than the minority control group on vocabulary comprehension and interpretation of ambiguous

sentences. The experimental group also performed significantly better than the English control group on vocabulary comprehension. The English control group scored higher than the minority control group on recognition of semantic absurdities. All three groups performed similarly on the picture description task. These results confirm that minority language children are excellent candidates for French Immersion and suffer no delays in English language ability over the long term. In fact, these children display certain linguistic advances over the other groups of children in this study.

# TABLE OF CONTENTS

	<u>Page</u>
Abstract	ii
Table of Contents	iv
List of Tables	vi
List of Figures	vi
Acknowledgements	vii
CHAPTER ONE. INTRODUCTION AND BACKGROUND	1
French Immersion Education in Canada	8
Conditions under which children acquire new languages	11
The need for long-term studies	16
Summary	20
CHAPTER TWO. METHODS	22
Design	22
Subjects	23
Experimental group	25
Minority Control group	25
English Control group	26
French Immersion programs	26
Procedure	28
English Comprehension Tests	29
Peabody Picture Vocabulary Test-R	29
Token Test for Children	29

Test of Metalinguistic Ability	30
Test of Language Competence	30
The Word Test	31
English Production Test	31
Spontaneous Language Samples	31
Analysis	32
CHAPTER THREE. RESULTS	33
1. Peabody Picture Vocabulary Test-R	33
2. Token Test for Children	35
3. Test of Language Competence	39
4. Word Test	39
5. Spontaneous Language Samples	42
CHAPTER FOUR. DISCUSSION	47
REFERENCES	54

# LIST OF TABLES

<u>Table</u>	<u>Page</u>
Table 1. Description of subjects participating in the study	24
Table 2. List of schools from which subjects were selected.	27
Table 3. Summary of results from the PPVT-R.	34
Table 4. Summary of results from the Token Test.	37
Table 5. Summary of results from the TLC.	40
Table 6. Summary of results from the Word Test.	41
Table 7. Mean frequency of words, independent clauses, words per independent clause, errors per clause and type/token ratios	46

# LIST OF FIGURES

<u>Figure</u>	<u>page</u>
Figure 1. Performance on the PPVT-R in 1985 and 1989	36
Figure 2. Performance on the Token Test as a function of age	38

### Acknowledgements

I would like to express sincere thanks to my supervisor, Dr. Carolyn Johnson, for her support and guidance throughout this project. The cooperation of the schoolboards, the schools and their staff, as well as the children and their families was greatly appreciated. I thank my family and fellow classmates for their encouragement and emotional support. I am grateful for the assistance provided by Brian Radford on computer-related matters. I would also like to express my gratitude to Cathie, Heather & Marcel, and especially Dana & Brenda for their warm hospitality during my stay in Vancouver. Above all, I would like to thank my husband, Dr. Jim Cardwell, for his tremendous support throughout this thesis. This research was partially funded by a U.B.C. Humanities and Social Sciences Grant to Dr. Carolyn Johnson. This financial support was greatly appreciated.



## CHAPTER ONE

### INTRODUCTION

Over the past two decades, there has been a surge of interest in studies of French Immersion education. This stems partially from the fact that parents wish to know whether their children stand to benefit from such programs, or whether French Immersion may have negative impact on their children's education (Carey 1985). Furthermore, in establishing French Immersion Programs, the Ministries of Education in Canada have accepted responsibility for evaluating the effectiveness of these programs, and have thus encouraged and provided funding for studies of French Immersion.

Much of the early research in French Immersion concerned the success of French Immersion programs for majority language children<sup>1</sup>. Gradually, however, investigators have begun to question the appropriateness of French Immersion programs for certain subgroups of children. Do all children stand to benefit from French Immersion programs or are there some children for whom such programs may be detrimental? As a result, research has recently taken new directions to answer these more specific

---

<sup>1</sup> Children whose mother tongue is the primary language spoken within the community (and therefore has high status, Skutnabb-Kangas 1981).

questions. Target groups for these investigations have included children who are either academically, linguistically or culturally disadvantaged (Genesee 1983).

Minority language children<sup>2</sup> constitute one such group. In Western Canada, minority language children are of particular interest because of a large immigrant population. In an attempt to offer equal educational opportunities to all Canadian children, French Immersion programs have included children who come from minority language homes.

A large number of research reports have indicated that minority language children enrolled in regular English programs experience poor success in school and, further, lose proficiency in their native language (Anderson & Boyer 1978, Darcy 1963, Skutnabb-Kangas & Toukomaa 1976, cited in Bruck 1982). Assistive programs, such as ESL classes, have been developed solely to cater to the needs of such children. The fact that minority language children are a high risk group for language/learning disabilities has led some investigators to suggest that a third language program such as French Immersion may further impede the chances of success for these children (Genesee 1983).

The present investigation is a follow-up study of this hypothesis. Davies (1985) measured the progress of minority language children in French Immersion programs relative to the progress of these children's peers in monolingual English

---

<sup>2</sup> Children whose mother tongue is one other than the majority language of the community (Davies 1985).

programs. The author was interested in the English language development of minority language children in French Immersion programs, since these children live in an English language community and will need to become proficient in this majority language. Davies included three groups of children in her investigation. The experimental group consisted of ten minority language children from various language backgrounds enrolled in French Immersion programs ("experimentals"). The first control group was composed of ten majority language children (i.e. English-speaking) enrolled in French Immersion programs ("English controls"). The second control group included ten minority language children enrolled in regular English programs ("minority controls"). These children were all attending schools in the lower mainland of British Columbia, and were in grade one at the time of testing. Criteria for selection of children for experimental and minority control groups required that they come from homes where a language other than French or English be spoken at least sixty percent of the time prior to the child's school entry. On the other hand, children in the English control group came from homes where English was spoken. Children were matched as closely as possible for age, sex and socio-economic status. Comparisons of results on various measures of English language competence indicated that the experimental group was performing similarly to the English control group and, in some instances, significantly better than the minority control group.

In trying to account for the poor performance of minority language children in regular English programs, researchers working within a 'socio-psychological' framework have proposed that attitudinal variables may predict success in second language programs. Other investigators, working in a psycholinguistic framework, maintain that cognitive and linguistic factors determine success in these programs (the reader is referred to Davies 1985, for a review of these models). In keeping with the socio-psychological model, Davies hypothesized that, if positive attitudes toward the native language and culture were maintained in the home, minority language children should experience success in French Immersion programs with no detrimental effects on the continued development of their English language skills. Attitudinal questionnaires were given to the experimental and minority control children as well as to their parents and teachers. On the basis of responses to these questionnaires, Davies determined that positive attitudes were expressed by both the experimental and minority control groups as well as by their families and teachers. These results make it impossible to reject the socio-psychological model. That is, a group of children whose native language and culture were not positively valued was not isolated, and so no comparisons of English language competence to this hypothetical group were possible.

Nevertheless, Davies obtained interesting results which serve as the basis for the present investigation. Tests of

English language competence conducted on the three groups of children indicated the following:

- (1) For those tests which were analyzed statistically, in no instance did experimentals score significantly lower than English controls. Descriptive data from spontaneous language samples suggest that experimentals made more morphological and syntactic errors than English controls.
- (2) Scores from one English comprehension subtest, as well as from a test of English speaking skills, indicated that minority controls were performing significantly lower than experimentals.
- (3) On several tests of English language competence, minority controls obtained significantly lower scores than English controls (i.e. vocabulary comprehension, comprehension of commands, test of oral language, spontaneous language sample, and some metalinguistic skills).

The picture that emerges from the above results suggests that minority language children in French Immersion programs are becoming as proficient in English as children in French Immersion whose native language is English. This supports Davies' hypothesis that the experimental group would perform just as well as the English control group. Test scores showed the experimentals to be scoring slightly below the English controls, but not significantly below. In addition, the experimentals showed stronger abilities in some areas of English language competence than the minority controls, even though both groups expressed positive attitudes towards home language and culture. This suggests that attitudinal factors alone are not responsible for the success of minority language children (Davies 1985). At least in the short term (i.e. by the end of

grade one), minority language children in French Immersion programs suffer no ill effects in the development of the majority language.

However, a number of relevant questions remain unanswered. For example, how will the English language skills of minority language children in French Immersion programs develop over the longterm? Davies proposes that these children may eventually outperform not only the minority controls but also the English controls. The advantages of learning additional languages (Stern 1982) may not have been evident when these children were in grade one but may surface when these children are older. Conversely, these children may suddenly begin to experience increased difficulties at higher grade levels when the language demands of curricula become increasingly complex. Recall that minority language children in French Immersion consistently scored slightly below the English controls. These early lags which appear nonsignificant when the academic demands imposed on children are minimal may be early indicators that these children are at risk for language/learning disabilities in later grades.

The purpose of the present study is to re-evaluate the English language skills of the same group of minority language children in French Immersion -- by this time in grades five or six -- involved in Davies' study. Information gathered from this study is of value to educators in determining how French Immersion programs affect minority language children's development of the majority language and will further help indicate whether preventative measures should be taken to

circumvent language/learning disabilities for this group of children. Alternatively, information may emerge to suggest that the immersion environment is as appropriate or more appropriate to the needs of minority language children than are regular English classrooms (Genesee 1976).

## French Immersion Education in Canada

### Definition:

A brief description of immersion and terms associated with immersion education is necessary prior to the consideration of French Immersion for minority language children.

Immersion education is generally characterized by three variables: 1) the language of instruction 2) the child's native language and 3) the proportion of time the child is taught using the second language as opposed to the first language. French Immersion programs in Canada use French as the language of instruction for majority language children (i.e. English-speaking children). The mother tongue may be used for some curriculum instruction but the same material is never taught in both languages. Keeping instruction of a particular subject isolated to either French or English without mixing the two languages is thought to reduce the chances of confusion for the students (Genesee 1983). The goal of immersion education is to enable a child to become functionally competent in a second language while still maintaining proficiency in the first language. Genesee (1983) states further that children in immersion are expected to attain a level of achievement across subject areas that is consistent with their grade level.

### The Immersion Environment:

Features of French Immersion environments are particularly relevant to this discussion since immersion programs were developed with a view to creating an environment conducive to



language learning. The following description is based on Genesee's (1983) discussion of the immersion environment. In French Immersion, children are encouraged to use French as much as possible for communication but they are not penalized for using English during the early stages of the program.

Therefore, they may address their teachers or peers in English if they feel the need to do so. Teachers, however, interact with the children only in French, and thus serve as monolingual models which may reinforce the children's use of French. The fact that French Immersion children's native language is valued and recognized by the teachers, other children and their families means that French Immersion children are able to maintain their cultural identity while still acquiring proficiency in a second language (Bruck 1982; Swain 1981b, cited in Davies 1985).

Furthermore, the learning environment in French Immersion is one in which emphasis is placed on children's communicative attempts rather than on the form of the message. That is, all attempts in the second language are met with praise even if the form of the message is not entirely correct. This creates positive attitudes towards the second language which, in turn, may increase motivation (Bruck 1982). This communicative environment parallels children's home environments, which Genesee has termed "context embedded," and which "derives from interpersonal involvement in a shared reality that reduces the need for linguistic elaboration of the message" (Cummins 1981: 11, cited in Genesee 1983). Such an environment may be an

appropriate transitional step between the home and school. Carey (1985) suggests that context embedded communication is less cognitively demanding and may more closely match the young child's communicative abilities.

Although French Immersion programs have many features in common, there are variations in both the point at which immersion begins and the proportion of instruction that is conducted in the first versus the second language. Several investigators have described the available programs and the following description is adapted from Cummins (1988). Early Total Immersion uses French as the language of instruction for all curriculum material in the early elementary grades. English is introduced into the curriculum in grades two or three and its use is gradually increased until English makes up approximately half of curriculum instruction by the fifth or sixth grade. Other variants of immersion are Early Partial Immersion, and Intermediate-and-Late Immersion. In Early Partial Immersion, kindergarten is taught in English, but instruction in grades one through six is divided equally between French and English. In Intermediate-and-Late Immersion, French is not used for instruction in the early grades (i.e. K, grade one, grade two). Thereafter, its introduction varies from as early as grade three to as late as grade twelve (Cummins 1988).

Davies (1985) chose her subjects from Early Total Immersion programs since these programs delay the introduction of English the longest and therefore have the greatest potential impact on

minority language children's development of English (Davies 1985).

### Conditions under which children acquire new languages

The success that children from majority language backgrounds experience in French Immersion contrasts sharply with the performance of minority language children enrolled in English language programs (see discussion of this below). In this section, I consider the differing conditions under which these two groups of children acquire a new language, as well as the conditions under which minority language children in French Immersion acquire new languages.

*Submersion* programs, as opposed to *immersion* programs, are those in which minority language children are instructed solely in the majority language (McLaughlin 1985 and 1987; Skutnabb-Kangas 1981; Bruck 1982). Whether a particular program constitutes immersion or submersion depends on several criteria: (1) voluntary participation in the language program (2) the consequences of failure within the language program (3) homogeneity of the participants with respect to the language learning task (4) the degree to which the language learning atmosphere is positive and supportive (5) attitudes towards home language and culture (6) whether the teacher is bilingual or not and (7) the amount of parental support (Skutnabb-Kangas 1981).

Majority language children in immersion programs experience considerable advantages over minority language children submersed in majority language schools (Skutnabb-Kangas 1981).

For example, the majority language child and his parents voluntarily chose the immersion educational route, while minority language children have no choice but to enroll in majority language schools. Furthermore, for the majority language child, the consequences of failure in immersion are not catastrophic since the child has the option of dropping out of the program and continuing his education in the majority language. In contrast, for minority language children, the consequences of failure can be dramatic, since the child has no alternative but to carry on in the same program. He will likely continue to do poorly, which may impact on his chances for future educational and/or job opportunities.

Minority language children in majority language schools are also at a disadvantage compared with their majority language peers, since the latter are native speakers of the language of instruction while the minority language children are not. This may not only lead to educational disadvantages but may also lead to feelings of inferiority and shame. The majority language child in immersion may not experience feelings of inferiority to his classmates, since all of the children are learning a language with which they are unfamiliar. Also, there are no negative attitudes towards the majority child's language within the school environment or the community. Children and educators understand and speak the child's mother tongue as do members of the community, enabling majority language immersion students to maintain positive attitudes towards their home language and culture. Furthermore, the goal of immersion programs is to add

a language to the student's repertoire, rather than replace their mother tongue with a new language. Thus, the majority language child is immersed in a positive and supportive environment where all attempts at communication in the second language are met with praise (Bruck 1982; Genesee 1983). Since the educational environment caters to the needs of native speakers of the language of instruction, the minority language child often lacks the same supportive atmosphere seen in immersion schools.

Immersion teachers are bilingual and can understand the child when the latter lapses into the mother tongue. It is also worth noting that the immersion teacher plans class sessions for non-native speakers of the language of instruction. Immersion teachers are apparently highly aware of the needs of the language learner and adjust their speech accordingly (McLaughlin 1985). For example, they simplify their output by keeping utterances short and basic in grammatical structure. They also use many strategies that parallel those used by parents during first language acquisition; namely, expansion, repetition and clarification. Conversely, the majority language teacher is often monolingual, and plans lessons for native speakers of English. The goal of the educational program is to assimilate the minority language child to the majority language rather than add a language to his repertoire. As a result, the minority language child may develop negative feelings towards his home language and culture.

Finally, good parental support is expected for the majority language child in immersion since parents have chosen this educational route for their child and must therefore have a high degree of interest in their child's education and success. McLaughlin (1985) points out that French Immersion programs in Canada were initiated by parents who continue to play a primary role in the development and implementation of these programs. As a consequence of such a positive language learning environment, Skutnabb-Kangas (1981) suggests that there are good chances of success for the majority language child in immersion. On the other hand, the amount of parental support for minority language children may be much more limited since parents are not necessarily as involved in their children's educational program as parents of immersion children. Such an environment then constitutes a submersion language learning environment (Skutnabb-Kangas 1981; McLaughlin 1985) where chances of success are poor (Tardif & Wever 1987; Moeller 1988).

The conditions under which minority language children in French Immersion programs acquire new languages differ from those described above. These children benefit from many advantages that their minority peers in English classrooms lack. These advantages are both environmental and sociological. Minority language children in French Immersion, like the majority language child in French Immersion, participate voluntarily. Parents are native speakers of neither the majority language nor the second language used to instruct their child, but nevertheless are likely to believe it important for

their child to acquire additional languages. Thus, parents of minority language children in French Immersion programs are supportive and this may indirectly create positive attitudes towards acquiring new languages. In addition, the fact that language learning is valued by these families may make them more likely to maintain positive attitudes towards their own language and culture. The risks of failure for these children are similar to those of their majority language peers in French Immersion, since an alternative English language educational route is available to them. However, the majority language child who drops out of French Immersion will be educated in his mother tongue whereas the minority language child will fall into the submersion category. The minority language child in French Immersion also experiences equality with his peers in terms of the language learning task. All of his classmates are non-native speakers of French and, therefore, the minority language child has no reason to feel insecure about his level of language competence. If anything, the fact that language learning is praised and is the primary goal of immersion education may make minority language children feel superior, since they already know an additional language. These positive feelings may lead to a high degree of self-confidence and create good motivation. Immersion teachers, who are bilingual themselves, gear their lessons towards non-native speakers of the language. Minority language children are not considered linguistically disadvantaged with respect to their classmates and so teachers

have equally high expectations for all the children in their classes.

Therefore, the learning environment for minority language children in French Immersion more closely resembles that of English children in French Immersion than minority language children in English programs. These children are likely to experience success at acquiring French while continuing to develop their English language abilities in a positive, supportive environment.

#### The need for longterm studies

Cross-sectional versus longitudinal investigations:

The advantages and disadvantages of cross-sectional as opposed to longitudinal language development studies have been considered extensively. Longitudinal studies differ from cross-sectional studies in that data is collected from the same individuals over an extended period of time. Thus development can be observed directly. Cross-sectional studies include groups of children at different ages, usually sampled at only one point in time. In cross-sectional studies, development is inferred from measures of language ability for each age group. The goals of investigators generally dictate whether a study should be cross-sectional or longitudinal. For example, if quantitative data are needed to establish which phonemes are found in the sound repertoire of two-year-olds, a cross-sectional study that includes a large sample size is likely to be conducted. However, if qualitative information is needed to



answer more specific questions, such as the sequence of emergence of phonemes, a longitudinal study is preferred.

Unfortunately, research limitations often make it more difficult to conduct longitudinal studies despite the tremendous amount of information such studies provide.

#### Early language testing and French Immersion for majority language children:

It is not possible to determine whether the results of studies in which subjects are tested only once are representative over time, and conclusions drawn from one-time results may lead to premature recommendations. For example, it is now the general consensus that majority language children enrolled in French Immersion programs initially lag behind their peers on tests of English language competence. However, these early lags disappear towards the end of their elementary education (Cummins 1988). In this case, had investigators considered early language test results alone, premature recommendations may have been made with respect to majority language children in French Immersion programs.

Trites & Moretti (1986) review a number of studies which indicate early English language lags in majority language children in French Immersion. For instance, Barik & Swain (1974, 1975a, 1975b, 1976a, 1976b, cited in Trites & Moretti 1986) found lags in the English language skills of children in French Immersion in grade one, but these lags were overcome by grade two when English language instruction was introduced. Similarly, Edwards & Casserly (1971, 1972, 1973 cited in Trites

& Moretti 1986) found lags in the English language skills of grade two French Immersion students, but these early lags disappeared by the end of grade three, once English language instruction made up at least part of the curriculum. Carey & Cummins (1983) found no differences in English language abilities of French Immersion students compared with a group of English controls at the grade five level but in a later study (Carey & Cummins 1984), the same investigators found weaker English language skills in their experimental group when the group consisted of younger subjects (grade three). Shapson & Kaufman (1978) found that the early gaps in English language skill between French Immersion and regular English program children disappeared by the end of grade three. This provides further evidence that lags in English language ability often exist early on for majority language children in French Immersion but, apparently, these children achieve parity with their nonimmersion English-speaking peers towards the end of their elementary schooling. In his review on immersion education, Genesee (1983) corroborates the above results and notes also that there appears to be no strong correlation between the amount of English language used in the classroom and children's eventual proficiency in English. In other words, children who receive much of their instruction in English early on (for instance, children in Delayed Immersion) display no longterm advantages in their English language skills over children who receive English language instruction only in later grades.

Early Language Testing and minority language children in Regular English Programs:

While the trend for children from majority language backgrounds enrolled in French Immersion programs has been that early native language lags disappear over time, the reverse has been found for minority language children enrolled in regular English programs. These children experience difficulties early on and their problems persist over time. Not only do these children fail to acquire the second language, but they also lose proficiency in their native language and experience poor academic success (Skutnabb-Kangas 1981; Anderson & Boyer 1978, Darcy 1963, cited in Bruck 1982; Macnamara 1966, Gezi 1974, Ortiz 1982, cited in Trites 1986; Wiss 1987; Gillett 1987).  
Cognitive Advantages of Learning Additional Languages:

Davies (1985) reviews a number of reports which propose that children who acquire additional languages may display cognitive benefits that monolingual children lack. Apparently, children acquiring additional languages display increased abilities in the areas of concrete operational thinking, divergent thinking, spatial abilities, general reasoning and metalinguistic awareness (Davies 1985: 20-28).

However, in her own study, Davies (1985) failed to find evidence of cognitive advantages for minority language children in French Immersion. She suggested that these advantages may not be evident until children are older. Davies (1985) further emphasizes the need for follow-up work in order to confirm or reject language learning advantages.

A longitudinal study may help determine whether minority language children in French Immersion programs continue to follow the pattern of English language development seen in their English peers in French Immersion or whether the early nonsignificant English language lags eventually lead to the same difficulties that their minority background peers in English programs experience. Alternatively, minority language children in French Immersion may display additional advantages that the other two groups lack. Therefore, three possibilities exist:

- (1) Early nonsignificant lags become more significant in later years when the language demands imposed on the child increase.
- (2) Early nonsignificant lags remain nonsignificant
- (3) Minority language children in French Immersion excel with respect to both their English peers in French Immersion and their minority language peers in regular English programs.

### Summary

In Canada, French Immersion programs have been a successful means of teaching a second language to children from English language backgrounds (i.e. majority language backgrounds). Longitudinal studies have further shown that acquisition of French occurs at no cost to these children's first language skills. Conversely, second language learning for minority language children submersed in regular English programs is sometimes unsuccessful. Some investigators have attempted to explain differences in performance among these two groups of

children by the different conditions under which these children learn new languages.

The present investigation targets a third group of children: minority language children enrolled in French Immersion. The primary objective is to re-examine Davies' (1985) hypotheses in order to determine whether these children follow the pattern of English language development seen in their English peers in French Immersion or that seen in their minority language peers in English programs. The null hypotheses to be tested are:

- (1) There are no differences in the English language skills of minority language children in French Immersion and English-speaking children in French Immersion as demonstrated by
  - a) comprehension skills
  - b) production skills
  - c) metalinguistic ability
- (2) There are no differences in the English language skills of minority language children in French Immersion and minority language children enrolled in regular English classes as demonstrated by:
  - a) comprehension skills
  - b) production skills
  - c) metalinguistic ability

## CHAPTER TWO

### METHODS

#### Design

Since the present investigation is a follow up to that of Davies (1985), the basic design was identical. Children that participated in the study in 1985 fell into three groups of ten:

1. Experimental group: minority language children enrolled in French Immersion.
2. Minority controls: minority language children enrolled in regular English classrooms.
3. English controls: majority language (i.e. English-speaking) children enrolled in French Immersion.

The English language skills of the experimental group are compared with those of minority controls in order to establish whether French Immersion has a negative impact on the development of English language skills in minority language children. The experimental group is also compared with English controls to determine whether knowledge of a third language puts children in French Immersion at a relative advantage with respect to their peers for the acquisition of the majority language.

### Subjects

In the initial study, thirty grade one children were selected from the Vancouver School Board and Richmond School Board (Davies 1985). Each of these children were included in one of the three groups described above.

The present study included twenty-three of the original thirty participants; four children (two experimentals, and two minority controls) had moved out of province, and of the remaining twenty-six, one experimental and one minority control were not included because their parents did not give consent. Finally, one child from the English control group had been enrolled in a special school for children with affective disorders, and was therefore not considered an appropriate subject. As a result, seven experimentals, nine English controls, and seven minority controls were included. All but two of the subjects were nearing the completion of their fifth grade. The other two subjects, both from the experimental group, had skipped a grade and were nearing the completion of their sixth grade (see table 1 for descriptive data on the subjects that participated in this study).

Group	Mean Age <sup>1</sup>	SES <sup>2</sup>		Languages <sup>3</sup>		Sex
		High	Low			male:female
Experimental						
	10;9	7	0	Chinese	(2) <sup>4</sup>	2:5
				Persian	(2)	
				German	(1)	
				Czech	(1)	
				Spanish	(1)	
				Korean	(1)	
Minority Control:						
	10;11	3	4	Chinese	(4)	2:5
				Punjabi	(2)	
				Italian	(1)	
English Control:						
	10;10	8	1	English	(9)	3:6

TABLE 1. Mean age, SES, Native Language and Sex of subjects participating in the study.

<sup>1</sup> years; months.

<sup>2</sup> As rated by Davies 1985.

<sup>3</sup> Languages spoken in the home; numbers in parentheses indicate number of children who speak the specified language.

<sup>4</sup> The total number of languages is one greater than the total number of children in the experimental group because one child speaks both Chinese and German in the home.



Experimental group: In Davies' (1985) study, criteria for assignment to the experimental group included the following: 1) in the home, children spoke a language other than French or English before they were three years old 2) this language was, at the time of Davies' (1985) investigation, spoken by at least one parent no less than fifty percent of the time 3) the children's parents were non-native speakers of English, and finally 4) these children were enrolled in early total French Immersion at the onset of Davies' (1985) study and had been since kindergarten.

In the present investigation, not all of the experimental group children were enrolled in total immersion; four of the seven experimentals able to participate were in a bilingual program in which instruction is divided roughly equally between French and English. The languages spoken by the seven experimental group children included Chinese (2), Korean (1), German (1), Spanish (1), Persian (2), Czech (1). The total number of languages spoken is one greater than the total number of experimental subjects because one child speaks both Chinese and German.

Minority control group: Criteria for assignment to the minority control group were the same as for the experimental group, except that the subjects were enrolled in regular English classrooms and had been since kindergarten (see Davies 1985). Thus, all of their instruction was in the majority language of the community. One further criterion outlined in the 1985 study

was that these children were not enrolled in special classes for non-native speakers of English (i.e. ESL classes).

The language backgrounds of the minority group children were: Chinese (4), Greek (1) and Punjabe (2).

English control group: The nine subjects comprising the English control group were from homes in which English was the only language spoken by both the children and their parents. In 1985, all of these children were enrolled in early total French Immersion and had been since kindergarten. However, by the time of the present investigation, four of the nine were enrolled in bilingual classrooms.

French Immersion programs:

In 1985, the children selected for participation in Davies' investigation attended four schools: two schools from the Vancouver School Board and two from the Richmond School Board. In the present investigation, the majority of the subjects still attended three of the four original schools. Five students from the original study had moved to different schools but were included in the follow-up since they had remained in similar educational programs. Table 2 lists the schools attended by all subjects.

Group:	Schools	Number of Students
<u>Experimentals:</u>		
	L'Ecole Bilingue	4
	Sir James Douglas	2
	William Cook	1
<u>Minority Controls:</u>		
	Sir James Douglas	4
	William Cook	2
	Van Horn Elementary	1
<u>English Controls:</u>		
	L'Ecole Bilingue	3
	Sir James Douglas	1
	William Cook	3
	York House	1
	Aubrey Elementary	1

---

TABLE 2. List of schools from which subjects were selected.

---

Whereas children in the experimental and English control group received all instruction in French in 1985 (grade one), this was not the case in the present investigation. As mentioned above, English language instruction is introduced in French Immersion programs at higher grade levels. The amount of instruction in English varies across programs from as little as twenty percent to as much as sixty percent by grade six (Genesee 1983). Since the subjects in this study came from several schools, it was not possible to control for the amount of instruction given in English.

#### Procedure

The subjects were administered a battery of tests at the end of grade five, or, in the case of the two subjects who skipped a grade, at the end of grade six. These tests were designed to evaluate the children's comprehension and production of English, as well as their metalinguistic skills. The intention was to use the same language measures as Davies (1985), which would enable direct comparison. However, by 1989, the children had exceeded the ceiling age for two tests used by Davies (1985): the Clark-Madison Test of Oral Language (Clark & Madison 1981) and the metalinguistic tasks designed by Pratt, Tunmer, & Bowey (1984) that Davies (1985) replicated in her study. Age-appropriate tests were substituted wherever possible and will be described below.

Each child was tested in a quiet room within the school. Testing was conducted over three sessions for each of the children: the first session lasted approximately forty-five minutes, the second session approximately thirty minutes, and the final session lasted fifteen minutes. All tests were administered in the same order for each subject.

#### English Comprehension Tests

Peabody Picture Vocabulary Test-Revised      The PPVT-R (Dunn & Dunn 1981) is designed to assess the extent of English vocabulary acquisition. This standardized receptive vocabulary test requires the subject to select a picture considered to best illustrate the meaning of a stimulus word presented orally by the examiner. Each item has four simple, black-and-white illustrations arranged in a multiple-choice format. This test took approximately fifteen minutes to administer.

Token Test for Children      This standardized test is designed to assess comprehension of orally presented sentences (DiSimoni 1978). The subject is required to manipulate various colored tokens that contrast in size and shape in response to progressively longer and more complex commands (DiSimoni 1978). This test took approximately fifteen minutes to administer.

The ceiling age for this test is twelve years old. Children in the present investigation could potentially reach a plateau in performance since they are approaching the ceiling age of this test (further discussion on this subject is provided in the results section). Despite this potential problem, the

Token Test was considered an appropriate language measure for several reasons. For instance, the children were still one to two years younger than the ceiling age for which results were reported by DiSimoni (1978). In addition, since the Token Test was one of the language measures used by Davies (1985), administration of this subtest would allow direct comparison of children's performance in 1985 and 1989. Further, since potential delays in English language ability were the subject of this investigation, the risk of plateaus in performance was no more likely than performance consistent with younger-aged children. Finally, DiSimoni (1978) reports that although plateaus begin to appear in children at approximately age nine, the configuration of performance varies according to factors such as SES and cultural background, suggesting that children from minority cultures may perform differently from children from majority cultures.

#### Test of Metalinguistic Ability

##### Test of Language Competence (TLC)

One subtest of the TLC

(Wiig & Secord 1985), subtest one, was administered to the subjects. This subtest is designed to assess children's ability to interpret sentences that are ambiguous at the lexical or structural level. For this task, children attempted to recognize sentence ambiguity by stating explicitly the different meanings of stimulus sentences within twenty seconds. This subtest took approximately fifteen minutes to administer.

The Word Test

The Word Test is a standardized test designed to assess productive vocabulary and semantic abilities (Jorgensen, Barrett, Huisingh & Zachman 1981). In fact, as the following descriptions indicate, this is a test of metalinguistic ability. It is divided into six parts:

- 1) associations: This task requires the subject to choose the one word from four that does not belong. He must then explain his choice in relation to the category of the other three words.
- 2) synonyms: This task requires the subject to express a one-word synonym for each stimulus item.
- 3) semantic absurdities: This task taps the subject's ability to identify and express what is wrong with an absurd statement.
- 4) antonyms: This task requires the subject to express a one-word opposite for each stimulus item.
- 5) definitions: This task examines the subject's ability to explain the meanings of words.
- 6) multiple definitions: This task is designed to elicit two meanings for each test word.

(from Jorgensen, Barrett, Huisingh & Zachman 1981, pp.8).

This test took approximately thirty minutes to administer.

### English Language Production

Spontaneous Language Sample

Spontaneous language samples were elicited using a picture description task. Two pictures were presented to each child. Following Snow's (manuscript) contextualized and decontextualized language tasks, children were required to tell everything they could about the first picture. The children were then required to describe a second picture so that a third person, who was not present in the room,

would later be able to draw an identical picture using only the child's tape-recorded description.

The speech samples of picture two were subsequently analyzed quantitatively to determine type/token ratios, average number of words per clause (following the segmentation methods described by Martin 1977, Pappas 1981, and Rochester & Martin 1979), and number of errors per clause.

### Analysis

As there were three planned comparisons for each test, group means of the standardized test scores were compared using an *a priori* test for comparing multiple independent groups following the method suggested by Pagano (1981). Test statistics were considered significant at the level of  $\alpha < \text{or equal to } 0.1$  (after Davies 1985), unless otherwise stated. This constitutes a lenient level of significance, but since the nature of this investigation is preliminary and exploratory, factors that should be included in future investigations and tested according to more stringent significant criterion will likely be identified, while those not significant at even this lenient level can be discarded.

Additional comparisons were made on tests which were administered in 1985, and again in 1989. Specifically, correlated within group comparisons of raw scores were made in order to determine the relative improvement of each subject from 1985 to 1989. Comparisons of improvement over time could then be made across the three groups of children..



### CHAPTER THREE

#### RESULTS

On several tests, the results for one child ('7ex') from the experimental group were far below those of any of the other children involved in this study; for example, child '7ex' obtained a standard score on the PPVT-R of 76, while the average score for the twenty-two other children was 112 (range 92 to 136; SD = 10.87). Therefore, the results from this child were discarded for all tests, and were not included in the analyses. This decision could be viewed as contradictory since one purpose of this investigation was to identify subpopulations of children that are at risk for language disabilities. However, examination of this subject's performance in 1985 (when the subject was in grade one) showed a similar pattern, suggesting a developmental, rather than an acquired delay.

#### 1. Peabody Picture Vocabulary Test-R

Analysis of the standard scores from the PPVT revealed that vocabulary comprehension of the minority control children did not differ significantly from that of the English controls ( $p > 0.1$ ; table 3). However, children from the experimental group scored significantly higher than either the minority

control group ( $t_{\text{obt}} = 2.75$ ;  $p < 0.02$ ) or the English control group ( $t_{\text{obt}} = 1.90$ ;  $p < 0.1$ ).

Group:	Mean	Standard Deviation
Experimental:	121.0	10.06
Minority Controls:	106.3	8.71
English Controls:	111.3	10.01

TABLE 3. Summary of results for the PPVT-R.

Since the PPVT-R was also administered in 1985, it was possible to determine the relative improvement of each group over time. Figure 1 displays the mean raw scores from 1985 and 1989. These results suggest that the experimental group improved at a faster rate than the other two groups of children. This was supported by a two-way ANOVA (years x groups), which showed a significant interaction effect ( $f = 6.91$ ;  $p = 0.006$ ).

## 2. Token Test for Children

Individual scores for each subtest of the Token Test were uniformly high, suggesting that the children had reached a plateau in performance. There were no significant differences between groups ( $p > 0.1$ ; table 4).

Figure 2 illustrates the ceiling effect that occurs with majority culture, normal, middle class children on the Token Test. This figure was constructed from the normative data provided by the author of the test (DiSimoni 1978). The figure shows that mean overall test scores begin to plateau in children between the ages of eight and nine. Though performance analogous to that of younger children (i.e. nine and below) was a distinct possibility for the minority language subjects in this study (see methods for further discussion), apparently all three groups of children had reached plateaus in performance on this test.

## Mean Raw Score

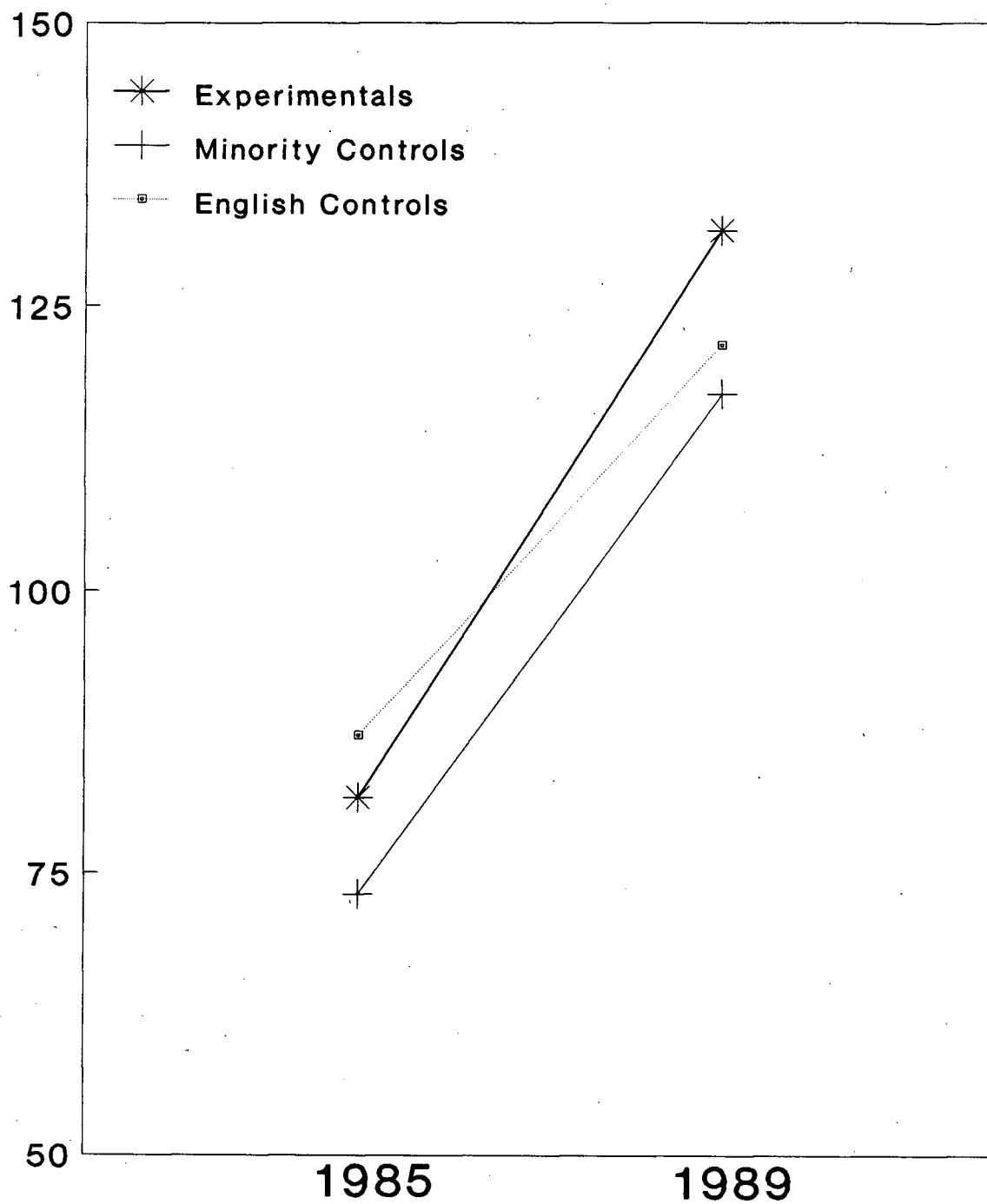


Figure 1. Comparison of the mean raw scores obtained on the PPVT-R by the experimental, minority control, and English control groups in 1985 and 1989.

Subtest	Group:	Mean	Standard Deviation
One	Exp. :	501.0	--
	Min. Con.:	501.0	--
	Eng. Con.:	501.0	--
Two	Exp. :	502.0	--
	Min. Con.:	502.0	--
	Eng. Con.:	501.3	2.00
Three	Exp. :	501.8	2.86
	Min. Con.:	503.0	--
	Eng. Con.:	501.4	3.09
Four	Exp. :	501.8	3.82
	Min. Con.:	501.7	1.80
	Eng. Con.:	503.6	2.18
Five	Exp. :	502.3	3.20
	Min. Con.:	500.5	4.65
	Eng. Con.:	503.4	3.50
Overall	Exp. :	502.7	1.86
	Min. Con.:	502.0	2.08
	Eng. Con.:	503.7	2.35

TABLE 4. Summary of results for all subtests of the Token Test.

# Token Test Overall Scores (means)

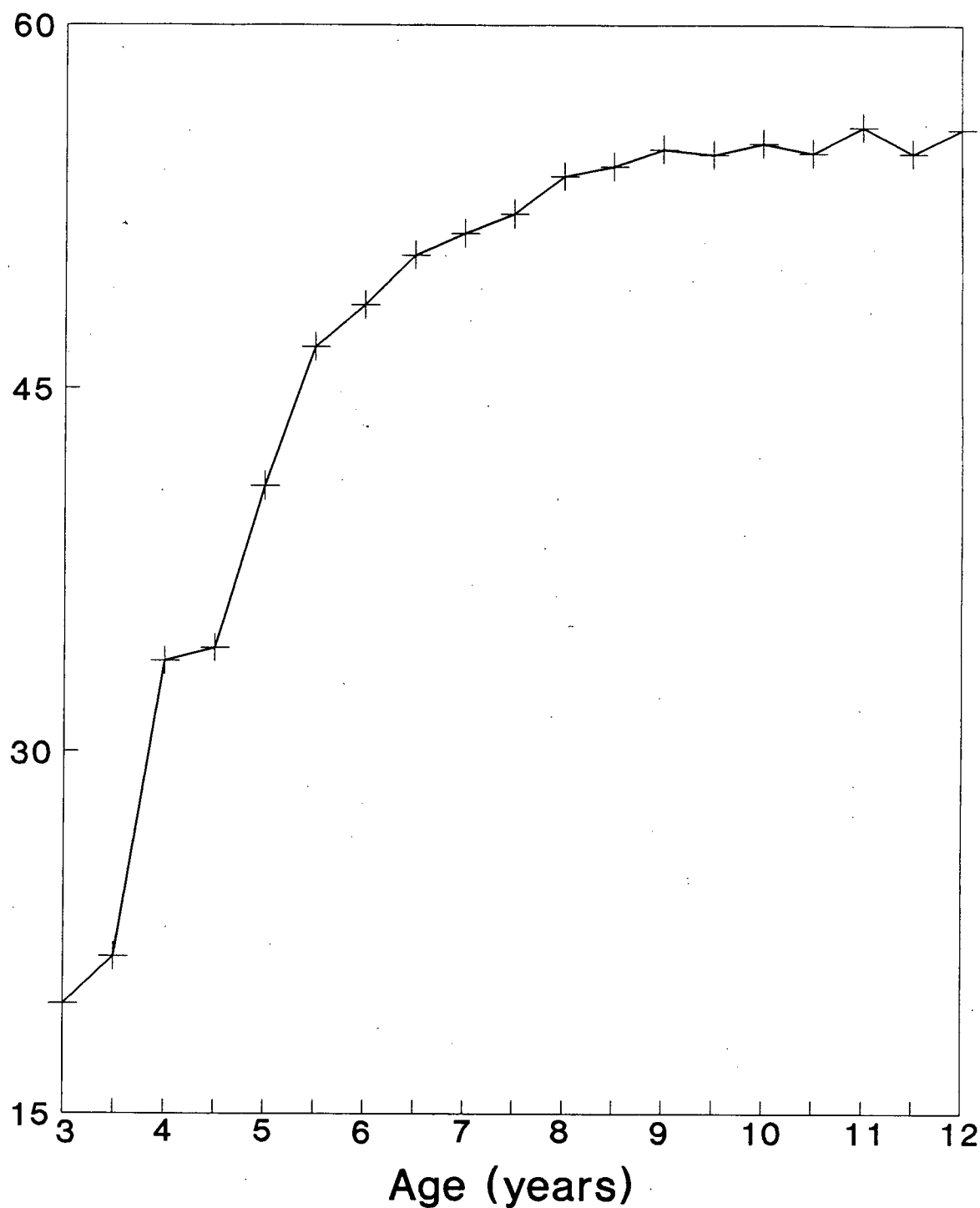


Figure 2. Mean overall scores obtained by groups of children ranging in age from 3;0 to 12;0 years old. Graph constructed from data provided in DiSimoni 1978.

### 3. Test of Language Competence

Comparison of mean scores across groups revealed that English controls and minority controls did not differ significantly in metalinguistic ability ( $p > 0.1$ ; table 5). However, the experimental group scored significantly higher than the minority control group ( $p_{obt} = 1.87$ ;  $p < 0.1$ ; fig 1). Thus, the experimental group demonstrated a superior ability to recognize lexically and structurally ambiguous sentences compared with minority controls.

### 4. Word Test

There were no significant differences among groups on subtests A, B, D, E, F, and the overall test scores ( $p > 0.1$ ; table 6). However, the English control group scored significantly higher than the minority control group on subtest C, semantic absurdities ( $p_{obt} = 2.6701$ ,  $p < 0.02$ ). Thus, children from the English control group were better able to interpret sentences containing semantic absurdities (for example, "the mother fed the lullaby to her baby") than the minority control group.

Further differences between groups may not have been present because scores on this test were, as with the Token Test, uniformly high. The average overall mean scores that children obtained on this test corresponded to a percentile rank of ninety-nine percent or above.

Group:	Mean	Standard Deviation
Experimentals:	11.0	1.67
Minority Controls:	8.9	2.48
English Controls:	9.4	1.94

TABLE 5. Summary of results for the TLC.



Subtest	Group:	Mean	Standard Deviation
A	Exp. :	55.2	4.40
	Min. Con.:	52.7	5.35
	Eng. Con.:	55.1	4.26
B	Exp. :	53.2	3.25
	Min. Con.:	52.4	2.23
	Eng. Con.:	52.3	2.40
C	Exp. :	54.3	1.37
	Min. Con.:	52.9	1.68
	Eng. Con.:	55.0	1.66
D	Exp. :	53.3	2.34
	Min. Con.:	53.5	2.23
	Eng. Con.:	52.8	2.17
E	Exp. :	54.0	1.83
	Min. Con.:	54.1	2.34
	Eng. Con.:	51.0	2.29
F	Exp. :	53.8	1.94
	Min. Con.:	53.0	1.73
	Eng. Con.:	52.7	3.04
Overall	Exp. :	58.7	2.42
	Min. Con.:	57.3	2.29
	Eng. Con.:	58.2	2.64

TABLE 6. Summary of results for all subtests of the Word Test.

## 5. Spontaneous Language Samples

The picture descriptions for picture two proved adequate for the purposes of the present analysis. Four measures were used to complete this quantitative analysis: total number of words (tokens), total number of different words (types), total number of clauses, total number of errors of form. From these measures, calculations of mean length of clause, type/token ratios, and errors per clause were possible.

As a measure of syntactic complexity, the mean length of independent clause was calculated. This measure is comparable to mean length of utterance but is more appropriate for older children, since their utterances are more lengthy and complex than younger children, and mean length of utterance reflects situation of speaking more than it does grammatical complexity at this developmental stage. In order to segment the text into clauses, the *independent clause* was chosen as a unit of analysis. A clause was considered independent if it could stand on its own as a declarative, interrogative, exclamatory or imperative structure. This definition of the independent clause is based on classification within a systemic grammar framework (Halliday & Hasan 1976). The following segmentation procedure was used to identify the independent clauses within the text (procedure described by Martin 1977, Pappas 1981, and Rochester & Martin 1979). Independent clauses include the following:

- a) any independent clause followed by a subordinate clause (the subordinate clause may be relative, complement or adverbial)
  - e.g. there's a fireman getting a person out of the apartment because he won't be able to come down

- b) clauses that are conjoined and in which there is subject ellipsis  
     e.g. the woman is on the right side and is holding a microphone
- c) other coordinated clauses are counted as two independent clauses  
     e.g. the truck has two wheels at the front /and it's kind of on its side

Calculation of the mean number of words per clause revealed all three groups to be performing similarly ( $p > 0.1$ , see table 7); that is, there was no cross-group difference in syntactic complexity.

Type/token ratios were calculated to provide a measure of productive vocabulary. Type/token ratio, which is calculated by dividing the total number of different words in a sample (types) by the total number of words (tokens), is widely recognized to be a reliable indicator of lexical diversity. This measure complements the vocabulary comprehension test, the PPVT-R. The results suggested once again that, despite considerable variability within groups, children across groups tended to produce a similar number of total words (tokens) and total different word types (types) ( $p > 0.1$ , see table 7).

Davies (1985) found that, in grade one, both minority language groups produced more errors of form than did the English control group. Errors of form were tabulated in the present speech samples to determine whether this difference still existed by grade five or grade six. The errors tabulated in the children's speech samples included:

- a) deletion of obligatory constituents  
     e.g. the fireman is wearing \_\_\_ black coat  
         (indefinite article a omitted)

- b) morphological errors  
     e.g. the ladders is grey  
         (singular is produced instead of plural are)
- c) addition of an extra constituent  
     e.g. there's a girl that she's holding a microphone  
         (referent of she is girl and therefore she is  
         redundant)

Comparison of number of errors per clause indicated no differences between the three groups of children ( $p > 0.1$ , see table 7). In fact, children generally produced very few errors with respect to the total number of clauses and many children produced no errors at all. Subjective observation of the speech samples suggested that several children had difficulty maintaining unambiguous reference (e.g. "there's a lady from it", where clear reference of it to the building is not established). Analysis of this error-type should be considered in future investigations.

To summarize the results:

- a) comprehension: Minority language children in French Immersion were scoring significantly better than the minority control group or English control group on vocabulary comprehension. The experimental group was performing similarly to the control groups on comprehension of complex commands.
- b) metalinguistic skills: Minority language children in French Immersion were displaying better metalinguistic skills than the minority control group, as assessed by the Test of Language Competence. The experimental group was performing similarly to the other two groups of children on the remainder of the metalinguistic tests.
- c) production: Minority language children in French Immersion were demonstrating productive skills which paralleled those of both control groups. They produced a similar number of words per clause, errors per clause, and obtained comparable type/token ratios.

Thus, null hypothesis (1) was rejected for vocabulary comprehension. The results from all other measures of English comprehension, production and metalinguistic ability provide support for hypothesis (1). Null hypothesis (2) was rejected for vocabulary comprehension and ability to interpret ambiguous sentences. All other results indicated no differences in English language ability between minority language children in French Immersion and minority language children in regular English classes, and thus serve as support for hypothesis (2).

	Experimentals	Minority controls	English controls
Words			
M	229.8	295.9	188.6
SD	131	350	64
range	121-460	73-1054	100-274
Independent Clauses			
M	21	26	18
SD	10	25	6
range	10-34	9-79	9-28
Words/Indep.Clause			
M	11	10	10
SD	2	2	1
range	9-14	8-13	8-12
Errors/clause			
M	0.044	0.086	0.055
SD	0.065	0.096	0.082
range	0.00-0.154	0.00-0.222	0.00-0.250
Type/token ratios			
M	0.39	0.44	0.39
SD	0.07	0.16	0.08
range	0.30-0.50	0.19-0.66	0.30-0.47

Table 7. Mean frequency of words, independent clauses, words per independent clause, errors per clause, and type/token ratios.

## CHAPTER FOUR

### DISCUSSION

Davies (1985) concluded that minority language children can attend French Immersion programs without risk of delays in the development of the majority language of the community (English). However, Davies recommended a follow-up investigation would be beneficial in determining whether the patterns of English language development suggested by early language test results persist over time, or whether language deficits might emerge as the curriculum assumes a more solid English language base at higher grade levels. Thus, the purpose of this investigation was to re-evaluate the English language skills of the same group of minority language children enrolled in French Immersion programs in order to establish whether these children continue to perform as well as their English peers in French Immersion and their minority language peers attending all-English programs.

The present results suggest that the English language skills of minority language children continue to be as well-developed as those of both English children in French Immersion and minority language children enrolled in all-English programs. Furthermore, the vocabulary comprehension of minority language

children enrolled in French Immersion appears to be superior to that of either minority or English controls. Additionally, results from the TLC suggest that experimentals have metalinguistic skills superior to those of the minority controls.

These results not only support Davies' (1985) hypothesis, but also extend her findings, showing that over time, levels of English language proficiency in minority language children in French Immersion remain comparable to those of their English and minority language peers in French Immersion and all-English programs, respectively.

Davies stated that the superior performance of the experimental group compared with that of minority control group is not consistent with the socio-psychological model of language learning since both groups apparently hold their home language and culture in high regard. Davies (1985) noted that her questionnaires may not have produced reliable information about attitudes of children, their parents, or teachers towards home language and culture. If the experimental group children, their teachers and parents hold home languages and culture in higher regard than do the children, parents and teachers of the minority control group, then the experimental group would be expected to score higher on language tests than the minority control group (Davies 1985).

On the other hand, the conditions under which children acquire new languages have been described as an interaction between environmental and socio-psychological factors.



Attitudes towards home language and culture constitute only one of many of these factors. In chapter one, I identified the conditions under which minority language children in French Immersion learn new languages. This classification suggested that the conditions for learning experienced by minority language children in French Immersion more closely resemble those of their majority language peers in French Immersion than those of their minority language peers in regular English programs. If so, it is perhaps not surprising that both majority and minority language children in French Immersion demonstrate superior English language skills to those of minority language children in English programs.

Davies (1985) suggests that the superior English language performance of minority language children in immersion (compared with the minority control group) may result from higher linguistic competence in their first language ('psycholinguistic model'; see Davies, 1985, for further discussion). However, the explanation that English performance is related to first language competence is weakened by the current observation that, on one of the tests (PPVT-R), the experimental group performed better than the English control group. Presumably, at the onset of schooling in French Immersion, the first language skills of majority language children were at least as good as those of minority language children, since the former had constant exposure to English (i.e. in the home and in the community), while the children in the experimental group were only exposed to their first language in the home. In addition, it seems

likely that majority language children in French Immersion probably have better opportunities to maintain good first language skills compared with minority language children in French Immersion, since children from the former group are exposed to English more often (i.e. at home, in the community, and during some of the curriculum), while children from the latter group are, at best, exposed to their native language only in the home. If the English control group do indeed possess stronger first language abilities than the experimental group, the psycholinguistic model cannot account for the superior performance of the experimental group on vocabulary comprehension.

Differences in intelligence may also account for the superior performance of the experimentals compared with the minority controls. Unfortunately, intelligence was not objectively evaluated in Davies' (1985) study (subjective teacher ratings of student standing were used to control for differences in intelligence), and this could have affected performance in the 1985 investigation as well as in this follow-up investigation.

This study provides new evidence suggesting that children who acquire additional languages demonstrate at least some linguistic advantages (Stern 1982). In this case, minority language children in French Immersion scored significantly better than the English control children and minority control children on a vocabulary comprehension test. The experimental group also performed significantly better than the minority

control group on a subtest of metalinguistic abilities. These results suggest that linguistic benefits resulting from knowledge of additional languages may not become apparent until children are in grades five or six. Future investigations should aim to sample multilingual children's linguistic abilities at increasing age levels to establish whether other linguistic advantages emerge as children get older.

Stronger English language abilities in minority language children in French Immersion were not present across all areas tested. However, the language measures used may not have been sensitive enough to distinguish small, but consistent differences in performance. Since scores represented performance on standardized tests and since the subjects in this study all fall within the range of normal, the amount of variation in scores is reduced and statistical differences are not as likely. Another problem is that additional linguistic advantages may exist, but may not have been apparent at the ages sampled in this study. A longitudinal study with assessments carried out at regular intervals would better address this last issue.

Superior performance of the experimental group compared with the English control was noted on only one subtest; perhaps too much weight has been placed on this finding. However, despite the lack of statistical significance, there was a consistent trend on most other tests and subtests for experimental children to score higher than children from the English control group. This is in marked contrast with Davies'

(1985) study in which the reverse pattern was true; children in the experimental group tended to score lower than their English peers. Thus, French Immersion programs may actually confer additional benefits upon minority language children, allowing them to acquire English skills at an accelerated rate.

Comparison of the data from 1985 with data from 1989 indicates that early gaps in English language abilities of minority controls compared with English controls persist, although they are less apparent. The English control group scored higher on a subtest of the Word Test which tapped children's abilities to interpret sentences containing semantic absurdities. Thus, metalinguistic skills do not seem to be as well developed in minority control children as in either of the other two groups of children. Perhaps the minority controls would benefit from features of French Immersion programs that regular English programs lack.

Interpretation of the results from this study should be viewed with caution. Because the sample size was reduced from the 1985 study, it was difficult to show statistical significance for the trends observed in the results. Furthermore, ceiling effects may have been present on some of the subtests administered. Specifically, on two of the four tests used in this investigation, children were performing uniformly high, making it more difficult to observe differences even if variances in abilities were present. In fact, the two tests that had higher ceiling ages were the ones showing significant differences in performance between groups.

Unfortunately, fewer language measures are available for children at the grade five or six level, making it difficult to avoid ceiling effects.

In conclusion, minority language children are excellent candidates for French Immersion programs, and suffer no detrimental effects to the development of their English language skills. These children appear to have linguistic advantages over minority language children in regular English classrooms. In addition, minority children in Immersion demonstrate increased vocabulary comprehension skills compared with children from majority language backgrounds in French Immersion. It seems, however, that these language benefits may not become apparent until children are older, in this case, in grade five or six. This finding should be considered by professionals in charge of French Immersion programs; proposed early screening programs (e.g. Trites 1985) designed to identify children who perform more poorly than expected may falsely label as 'at risk' those children who experience temporary lags in language abilities.

# REFERENCES

- Bruck, M. (1982). Language-impaired children's performance in an additive bilingual education program. *Applied Psycholinguistics*. 3. 45-60.
- Carey, S. (1984). Reflections on a Decade of French Immersion. *The Canadian Modern Language Review*. 41. 246-259.
- Carey, S. & Cummins, J. (1983). Achievement, behavioral correlates and teachers' perceptions of francophone and anglophone Immersion students. *Alberta Journal of Educational Research*. 29. 159-167.
- Carey, S. & Cummins, J. (1984). Communication Skills in Immersion Programs. *Alberta Journal of Educational Research*. 30. 270-283.
- Cummins, J. (1988). Research Findings from French Immersion Programs Across Canada: A Parent's Guide. *Canadian Parents for French*. 41. 1-4.
- Davies, S. (1985). English Language Skills of Minority Language Children in a French Immersion Program. M.Sc. thesis. University of British Columbia. 124 pp.
- DiSimoni, F. (1978). *The Token Test for Children: Manual*. Teaching Resources Corporation, Hingham, Mass. 63 pp.
- Dunn, L. & Dunn, L. (1981). *Peabody Picture Vocabulary Test-Revised: Manual*. American Guidance Service, Circle Pines, Minn. 141 pp.
- Genesee, F. (1976). The Suitability of Immersion Programs for all Children. *The Canadian Modern Language Review*. 32. 494-515.
- Genesee, F. (1983). An invited article -- Bilingual education of majority-language children: The Immersion experiments in review. *Applied Psycholinguistics*. 4. 1-46.
- Genesee, F., Sheiner, E., Tucker, G.R. & Lambert, W.E. (1976). An Experiment in Trilingual Education. *The Canadian Modern Language Review*. 32. 115-128.

- Gillett, J. (1987). Ethnic Bilingual Education for Canada's Minority Groups. *The Canadian Modern Language Review*. **43**. 337-356.
- Hakes, D. (1980). *The Development of Metalinguistic Abilities in Children*. Springer-Verlag Berlin Heidelberg, New York. 119pp.
- Halliday, M.A.K. & Hasan, R. 1976. *Cohesion in English*. London: Longman.
- Holt, D.D. & Tempes, F. 1982. *Basic Principles for the Education of Language-Minority Students: An Overview*. California State Department of Education, Sacramento, Ca. 28 pp.
- Jorgensen, C., Barrett, M., Huisinigh, R. & Zachman, L. 1981. *The Word Test: Examiner's Manual*. LinguSystems Inc., Moline, Ill. 74 pp.
- Martin, J. (1977). *Learning how to tell: semantic sytems and structures in children's narratives*. Doctoral dissertation, University of Essex. (University Microfilms. No. 78-70, 018)
- McLaughlin, B. (1984). *Second Language Acquisition in Childhood: Volume I. Preschool Children*. Lawrence Erlbaum Associates Inc., Hillsdale, NJ. 261 pp.
- McLaughlin, B. (1984). *Second Language Acquisition in Childhood: Volume II. School-Age Children*. Lawrence Erlbaum Associates Inc., Hillsdale, NJ. 288 pp.
- McLaughlin, B. (1987). *Theories of Second-Language Learning*. Edward Arnold Ltd., Baltimore, Maryland. 181 pp.
- Moeller, P. (1988). No, Sarah, Early Immersion Is Not for You. *Venture Forth*. **19**. 11-16.
- Pagano, R. (1981). *Understanding Statistics in the Behavioral Sciences*. West Publishing Co., St. Paul, Minn. 1-571.
- Pappas, C. (1981). *The development of narrative capabilities within a synergistic, variable perspective of language development: an examination of cohesive harmony of stories produced in three contexts -- retelling, dictation and writing*. Doctoral dissertation, Ohio State University.
- Rochester, S. & Martin, J. (1989). *Crazy Talk: a Study of the Discourse of Schizophrenic Speakers*. New York: Plenum Press.

- Shapson, S.M. & Day, E.M. (1982). A Longitudinal Evaluation of an Early Immersion Program in British Columbia. *Journal of Multilingual and Multicultural Development*. 3. 1-16.
- Shapson, S.M. & Kaufman, D. (1978). Overview of Elementary French Programs in B.C.: Issues and Research. *The Canadian Modern Language Review*. 34. 586-603.
- Skutnabb-Kangas, T. (1981). *Bilingualism or Not: The Education of Minorities*. Multilingual Matters Ltd., Clevedon, Avon, U.K. 378.
- Snow, C. *Assessment of Academic Language Skills (AALS)*. Unpublished manuscript, Harvard Graduate School of Education.
- Stern, H. (1982). *Issues in Early Core French: a Selective & Preliminary Review of the Literature*. Toronto Board of Education, Ontario Research Department.
- Tardif, C. & Weber, S. (1987). French Immersion Research: A Call for New Perspectives. *The Canadian Modern Language Review*. 44. 67-77.
- Trites, R. (1986). *Learning Disabilities and Prediction of Success in Primary French Immersion: An Overview*. French Immersion Series. Ontario Ministry of Education, Toronto. 8 pp.
- Trites, R. & Moretti, P. (1986). *Assessment of Readiness for Primary French Immersion: Grades Four and Five Follow-Up Assessment*. French Immersion Series. Ontario Ministry of Education, Toronto. 175 pp.
- Wiig, E. & Secord, W. (1985). *Test of Language Competence: Technical Manual*. The Psychological Corporation Inc., Boston, Mass. 76 pp.
- Wiss, C. (1987). Issues in the Assessment of Learning Problems in Children from French Immersion Programs: A Case Study Illustration in Support of Cummins. *The Canadian Modern Language Review*. 43. 303-313.