

SEP 25 1991

**The Suitability of Early French Immersion
for Children With Learning Difficulties:
A Survey of the Literature**

Inge L. Englert
McGill University

A monograph presented to the Department of Education in Second Languages, McGill University, Montreal, in partial fulfilment of the requirements for Master of Education in Teaching French as a Second Language.

March, 1991

AG 671

ABSTRACT

The purpose of this monograph is to discuss the experiments conducted by Ronald Trites and Margaret Bruck with regard to learning difficulties in early French immersion programs. Both authors attempt to answer the question of suitability of such programs for all children. The ensuing controversy is highlighted as both authors arrive at divergent answers. Trites insists that children with a maturational lag in the temporal lobes of the brain are unsuited for such a program whereas Bruck demonstrates through her studies that such children who continue in French Immersion have the same difficulties as those in a traditional English program but suffer no cognitive setbacks. The two opposing poles are united by Corrinne Wiss through her proposal that there exists a sub-group of children who does not benefit from an early French immersion program due to a developmental immaturity (not a learning disability) which is outgrown in time. However, she acknowledges the existence of children with learning disabilities and insists that such learning impaired children need to continue their studies in French with the help of French remediation as they do not seem to be able to learn a second language in a regular French as-a-second language class.

RÉSUMÉ

L'objectif de cette monographie est de rendre compte des études que Ronald Trites et Margaret Bruck ont conduites sur les difficultés d'apprentissage des apprenants de français langue seconde en immersion précoce. Les deux chercheurs ont essayé de trouver des réponses à la question suivante: L'immersion: est-elle pour tout le monde? Les deux chercheurs répondent de manière divergente. Trites constate que les enfants dont la maturation des lobes temporaux du cerveau est incomplète ne peuvent pas suivre des programmes d'immersion précoce. Bruck, au contraire, démontre que ces enfants éprouvent les mêmes difficultés que ceux inscrits dans un programme de langue maternelle anglaise. Corrinne Wiss tente de concilier les deux positions opposées en suggérant l'existence d'un sous-groupe d'enfants ne profitant pas de l'immersion précoce à cause d'un retard de maturation. Ce retard se perd en grandissant. Elle affirme, de plus, la réalité de l'existence d'enfants troublés par des difficultés d'apprentissage. Elle propose enfin que ces enfants continuent leurs études en français langue seconde avec de l'aide dans cette langue puisqu'il leur est impossible d'apprendre autrement leur langue seconde dans les classes traditionnelles.

ACKNOWLEDGEMENTS

Thanks and appreciation are due first and foremost to Professor Jacques Rebuffot, Associate Dean (Academic) of the Faculty of Education, and Program Director (M.Ed. TFSL), my teacher and advisor, for his always cheerful and forthcoming helpfulness as well as his many valuable suggestions throughout my time at McGill University.

Next, I would like to express my gratitude to my family who put up with me never being there when needed most.

Finally, I want to thank my students who, through their needs, quietly pointed the way to this rewarding topic.

TABLE OF CONTENTS

	Page
Abstract	ii
Résumé	iii
Acknowledgements	iv
Table of Contents	v
 Introduction	 1
 Chapter 1	 6
1.1 Trites' Experiments	6
1.2 Study I	8
1.3 Study II	13
1.4 Study III	15
1.5 Study IV	16
a) The Four-year-old Kindergarten Study	16
b) The Five-year-old in French Immersion Kindergarten Study	19
c) The Grade One Study	20
1.6 Trites' Conclusions	22
1.7 Critique of Trites' Work	24
a) Stern	24
b) Jim Cummins	25
c) Fred Genesee	26

	Page
Chapter 2	29
2.1 Experiments by Bruck	29
2.2 Study I	31
a) The Preliminary Inquiry	31
b) The Longitudinal Study	36
2.3 Study II	40
a) Pilot Study	40
b) Predictor Study	43
c) The Consequence Study	50
2.4 Bruck's Recommendations	54
2.5 Those in Support of Bruck	56
a) Morrison, Pawley and Bonyun	57
b) Bonyun, Morrison and Unitt	58
c) Ruth Hayden	59
d) Jim Cummins	61
e) Fred Genesee	62
Chapter 3	64
3.1 Wiss in Support of Both Trites and Bruck	64
Conclusion	68
Bibliography	72

INTRODUCTION

This monograph attempts to find a resolution for the long-standing conflict that developed out of the studies conducted by Trites and Brook concerning the placement of low-achieving children and French Immersion programs. In their endeavour to empirically establish whether such children suffer affective/cognitive setbacks when enrolled in French Immersion, the two researchers arrived at diametrically opposed conclusions. Trites unequivocally urged the removal of academically weak students from immersion whereas Brook called for remediation and flexibility in the immersion curriculum in order to accommodate weak students. Wiss realized through her clinical work with such children that Trites' recommendations are indeed valid for a sub-group of low-achievers and that others, however, do benefit from a bilingual education as Bruck recommended. It is through Wiss' new insight that the two opposing views of Trites and Brook become a workable whole.

In order to understand the dilemma educators and parents face regarding the suitability of early French immersion for children with learning difficulties, the Canadian political climate needs to be understood. Canadians pride themselves on having a universally accessible education system, and yet, in striving to create a bilingual population, unwittingly produced an elitist education program.

It was Genesee in 1976 who first sounded fears of possible elitism in the school systems. Elitism had indeed become a fait accompli nurtured by Canadian federal government policies which provided grants to make more Anglo-Canadians, in particular

school children, bilingual in the hope of reducing tension between Canada's two official linguistic communities. Contrary to what this federal policy wished to achieve, French immersion tended to attract mainly a high achieving middle-class population who believe that educating one's children to become fluently bilingual is to increase their educational and job opportunities. The political reality supported this belief as federal and provincial civil service agencies in Canada emphasized bilingualism to obtain upper-level management jobs. This practice was then likewise emulated by the private sector as many management positions now require bilingualism (Olson and Burns, 1983). This economic reality makes the French immersion programs particularly attractive to the middle class who are always seeking advantages for their children in future job opportunities. Hence, to the English middle class, French immersion represents a new form of "re-skilling" (Olson and Burns, 1983, p. 8.), thereby solidifying or maintaining their class position. Whether Canada wants it or not, the public school system is functioning as a service to the elite.

A large amount of research (Trites 1976, 1977; Bruck 1975, 1978, 1985; Genesee, 1987; Olson and Burns, 1983) demonstrates that French immersion is clearly composed of the most capable and motivated students. This trend is borne out by higher test scores of French immersion students than by scores of regular English students. There is a feeling among researchers (Bruck, 1978, 1979; Corey, 1984) that some of this selection takes place naturally by parents who express concern that the French immersion program might be an upsetting or confusing experience for their children and that the development of basic English skills might suffer. Whereas parents of early French immersion students wanted their children to be bilingual irregardless of their children's initial discomfort or possible loss

of some basic mother tongue skills, knowing full well the positive future economic implications of a bilingual education.

Apart from this natural selection factor, schools themselves foster the elitist attitude, in that the immersion program is most often a highly selective one that requires students to attain extensive verbal and written language skills in both English and French, where promotion is solely based on academic performance. The learning atmosphere in these classes encourages high concentration, intensive listening skills, structured learning and completion of specific tasks. There is high respect for discipline and compliance, as disruptive behavior is not easily tolerated. The above-mentioned characteristics are very similar to those found in private school programs.

French immersion programs are totally optional in nature so that it is easy to track less able children out of them. This is indeed what has been happening since French immersion has been opened to all. Although Bruck (1975) has been arguing against this trend by demonstrating through her research that less able children fare no worse than they would, were they in a regular English program. All of her research data (Bruck, 1975, 1978, 1985) reveal that French immersion programs are indeed viable for a diverse range of students, provided that these programs are open to change and that politicians, administrators and educators show commitment by supporting the child in difficulty and finding solutions for his/her problems within the context of the French immersion program.

Ronald Trites, unwittingly, supports the elitism that French immersion programs have fostered to date, by proposing that children with a maturation lag should be discouraged

from entering the early French immersion program. He insists these children should wait until the maturational lag is overcome with time and should then enter a delayed or late French immersion program.

It is not within the scope of this monograph to discuss the following points:

- 1) The definition of a French immersion program;
- 2) The superiority of early French immersion over late French immersion;
- 3) Whether early French immersion programs are suitable for working class children, children with low IQ or children from minority groups;
- 4) Early immersion programs as found in the United States.

However, what will be discussed is the controversy that evolved out of the research conducted by Trites (1976, 1977) and Bruck (1975, 1978, 1985); and finally how Wiss (1989) in her article cleverly realized the positive points of both Bruck's and Trites' findings, thereby amalgamating them into a new workable concept.

Chapter one will describe the four experiments conducted by Trites, followed by the recommendations he drew from his data. The chapter will close with an explanation of the barrage of criticism that followed his publications. Chapter two analyzes Bruck's experiments regarding the suitability of French immersion programs for all children. From these studies Bruck brings forth some powerful recommendations; these will be enumerated. The chapter will end with studies of researchers supporting Bruck's findings. Finally, chapter three will review the paper published by Wiss (1989) citing a case study which clearly supports Trites' recommendations. However, in this paper Wiss also refers to her

other case study (1987) where the results support Bruck's contentions unequivocally. By bringing these two differing conclusions together, Wiss successfully unites the up-to-now opposing findings to stimulate research in the new direction uncovered by her innovative resolution of the above-stated controversy.

CHAPTER 1

1.1 Trites' Experiments:

Dr. Ronald L. Trites works at the Neuropsychology Laboratory at the Royal Ottawa Hospital. Here children with learning disabilities are tested in order to find the origin, and to determine the severity of their learning difficulty. The testing is then followed up with the appropriate remedial programs.

Schools in the Ottawa area introduced French immersion programs in 1969/70 at the kindergarten level. These programs were referred to as early French immersion programs. In the ensuing years an increasing number of children from these programs were experiencing learning difficulties and were often referred to Trites at the Neuropsychology Laboratory for assessment. Trites was struck by the brightness of many of the children in therapy. They did not seem to demonstrate low intelligence, language impairment or evidence of gross brain dysfunction. They appeared to be well adjusted, coming from warm, supportive families.

Trites was drawn into four studies funded by the Department of Education of Ontario. The first was conducted by Trites and his colleague M. A. Price (1976). The aim of this study was to determine if there was a characteristic neuropsychological test profile based on extensive individual testing of children who were having difficulty in early French immersion. Trites then wanted to determine if this test profile resembled in any significant way the test profile of children with more standard learning disabilities.

This first study was open to bias as pointed out by Stern et al. (1976), as all children participating in it had been referred to the clinic for the purpose of uncovering reasons for their school failure. Trites and his co-worker Price were sensitive to this bias, consequently found it important to cross-validate the results with a non-selected group of children who had not been referred for neuropsychological or other assessments. This second study (Trites and Price, 1977) was also aimed at discovering the validity of the results obtained in Study I and at gathering further information which would clarify the obtained results to a greater extent.

Trites' third study (Trites, 1978-79; 1984) consisted of a small follow-up study by retesting children who had participated in the original French immersion group of Study I. He wanted to determine the extent of their progress after they had been transferred to an English program. He felt that if their original learning difficulty was particular to the second-language nature of the French immersion program, they would accelerate their learning following enrolment in the English program. On the other hand, if their original difficulties were simply a manifestation of a generalized language difficulty they would experience learning difficulties following the switch to the English stream similar in nature to the kind encountered in French immersion.

The results of Trites' first three studies gave him reason to believe that it is possible to identify by means of neuropsychological test scores, characteristics of children who will most likely experience learning problems in early French immersion programs. Hence, in his fourth and last study (Trites 1984; 1985), Trites sought to identify the children

susceptible to failure in French immersion prior to being enrolled in an early French immersion program. He devised a test battery to achieve this end.

In this chapter the four studies conducted by Trites will be detailed, followed by his interpretations, and ending with an analysis of the criticism levelled at his studies by Stern, Cummins and Genesee.

1.2 Study I (1976):

Subjects:

Trites decided to compare test results of eight different groups of children. He was able to choose from over 2,000 subjects who had been referred to the Neurological Laboratory for testing. Four of the eight groups were chosen along linguistic lines and the other four were composed of more traditional school problems. The last four groups were not affected by language as these were English-speaking children attending English-speaking programs. Children with multiple diagnoses such as reading disability plus emotional disturbance or reading disability with minimal brain dysfunction were not included in these groups. All groups were matched as closely as possible to the French immersion groups for age, sex and IQ. There were 32 children in each group, all of whom, irrespective of which group they belonged to, were experiencing difficulty in school. Also included in this study was a type of control group composed of eight French immersion students succeeding in their studies. A total of 264 children participated in this study.

Language Groups:

1) French Immersion:

Children who had attended early French immersion, but who had either been switched to an English language program or were experiencing considerable difficulty in the French immersion program.

2) Anglophone Children in Francophone Schools:

This group of children resembled the French immersion group, since they spoke English at home but French in the classroom.

3) Other Ethnic Backgrounds in Anglophone Schools:

For this group of children the home language was other than French or English. It included children with German, Italian, Dutch, Polish, Chinese as well as other language backgrounds.

4) Francophones in Francophone Schools:

This group of French-speaking children was attending French schools.

"Traditional" Problem Groups:

1) Primary Reading Disability:

These were children with serious reading problems and problems related to language arts skills. They met all the criteria of primary reading disabilities such as average intelligence or greater, no evidence of gross psychopathology, no gross neurological disturbance, as well as adequate motivation. Indeed, a group of children with very similar characteristics to the French immersion group.

2) Hyperactive:

These children met the standard criteria of hyperactivity which included the Connor's Parent and Teacher Rating Scale scores of over 1.5, a physician's diagnosis of hyperactivity as well as a laboratory diagnosis of hyperactivity. The children also had to manifest a learning difficulty to qualify for this group.

3) Behaviour and Personality Problems:

Psychiatrists diagnosed these children as having adjustment problems and also evidenced a learning disability.

4) Minimal Brain Dysfunction:

These children were diagnosed by a neurologist and/or pediatrician as having minimal brain dysfunction. This diagnosis was usually based on history, physical and neurological examination, and mild or moderate electroencephalogram (EEG) abnormality.

The traditional problem groups of children were included to see if children who had difficulty in French immersion resembled, in significant ways, children who usually were found to have difficulty in a school setting.

Procedure:

From each participating child an extensive information history was gathered such as birth history, developmental milestones, medical and neurological history, social and emotional development, family relations, socio-economic level and school performance. This information was obtained through various sources: parents, school authority, social agencies and physicians. Each child also received an extensive six to eight-hour neurological examination which consisted of the following tests: Wechsler Intelligence Scale for Children, Raven Progressive Matrices Test, Peabody Picture Vocabulary Test, Halstead-Reitan tests which are adapted for children including Halstead Category Test, Tactual Performance Test, Finger Tapping Rates, Fine Manipulative Skills, Steadiness, Maze Coordination, Foot Tapping Rates, Sensory Recognition, Boston Speech Perception Test, Frostic Visual Perceptual Battery, Illinois Test of Psycholinguistic Abilities, Knox Cube Test, Lateral Dominance Test, Developmental Drawing Test, Wide Range Achievement Test, Early School Personality Questionnaire, Vineland Social Maturity Scale, Myklebust Pupil Rating Scale, Connor's Teacher's Questionnaire, Connor's Parent's Questionnaire. French achievement levels were tested with the Test de Rendement français 1973-74 (Trites 1984).

Results:

The French immersion difficulty group stood out because of its high IQ, excellent motor and sensory functions, in spite of which it had the poorest performance of all the groups on a complex psychomotor problem-solving test, the Tactual Performance Test (TPT), except for anglophones in francophone schools and the minimal brain dysfunction group. The poor TPT results became especially visible when age and IQ were restricted.

The poor TPT is the pivotal point of Trites' experiments and therefore needs to be defined. The description of it given by Trites is quite succinct: "On this test the child is blindfolded and required to place six or eight blocks (depending on age) of various shapes and sizes into a board, first with the dominant hand, then with the non-dominant hand, and finally with both hands together. The time required for each of the three trials is recorded. After completing the task, the blindfold is removed and the child is required to draw board and blocks from memory, attempting to keep them in correct spatial position. Clinical interpretation of performance levels on this test is quite difficult but under certain stringent conditions (adequate motivation, adequate intelligence, no evidence of severe motor or sensory disability, no gross psychopathology), performance on this test has specific implications with regard to adequacy of functioning of the temporal lobes. It is well established in neuropsychological literature that the temporal lobes are important brain structures for subserving language, memory and auditory perceptual functions." (Trites 1978/79, pp. 78-79)

In summary, the test results indicated to Trites a strong correlation between the results of the TPT and children experiencing difficulty in primary French immersion. This

group of students could be singled out as a unique group since they differed significantly from all seven groups tested. As a group they stood out from the eight groups as being young, bright and highly motivated, who experienced no difficulty on basic motor and sensory tests, having a well-developed English vocabulary and yet performed the poorest on a test highly sensitive to the functioning of the temporal lobe regions of the brain. This left no doubt for Trites that these results indicate a temporal lobe maturational lag in the French immersion difficulty group.

1.3 Study II (1977):

Subjects:

Sixteen children (Drop-outs) who had dropped out of the primary French immersion program of one school during the school years 1971 - 1976 for academic reasons, were asked to participate in this study. This group of children was matched for age, sex and having attended the same kindergarten French immersion class with the 16 control children (Controls) who were still in French immersion and doing well.

Procedure:

Each one of the 32 participating children received the neuropsychological test battery (see above) as well as a battery of reading sub-skills tests. An extensive history of each child was collected as was done in Study I. The TPT was investigated in depth in order to cross-validate the findings of Study I.

Results:

On the TPT the Controls significantly outperformed the Drop-outs on the time per block measure with the left hand and dominant hand trials. Furthermore, the Drop-outs performed significantly more poorly in terms of the total time of the right hand and both hand trials as well as on the spatial location component of the TPT. Lastly, on the memory component, the Controls once more significantly outdid the Drop-outs.

As was the case in Study I, the neuropsychological test profiles of the Drop-outs and Controls were substantially different, highlighting once again the uniqueness of the French immersion difficulty group, namely the Drop-outs.

The findings of Study II substantiate that there is a significant psychomotor problem-solving deficit in the younger children which was not found in the older group. This finding is compatible with the maturational lag hypothesis. The lag was evident in children below the age of nine, but this deficit disappeared as the child matures and passes age nine or ten.

In summary, Trites was satisfied with his initial conclusion regarding learning disabled children attending French immersion programs. The second test results indicated to him once again that these children have a specific learning disability characterized by a unique pattern of deficits on neuropsychological tests which suggest a maturational lag in the temporal lobe regions of the brain.

1.4 **Study III** (called Follow-up Study by Trites) (1978-79):

Subjects:

32 of the original French immersion learning difficulty group of Study I were to be re-tested but only 24 of them could be located for reassessment.

Procedure:

Each one of the 24 participating children was tested individually on a battery of tests which included: Wechsler Intelligence Scale for Children, Wide Range Achievement Test, Peabody Picture Vocabulary Test, Illinois Test of Psycholinguistic Abilities, Boston Speech Perception Test, Connor's Parent's and Teacher's Questionnaires, Myklebust Pupil Rating Scale and TPT.

Results:

All 24 children had switched to the English-language program. They showed significant improvement in their reading and spelling skills in English as well as English vocabulary. None of the 24 children tested needed learning-disability class placement in the English program, nor did their teachers categorize any one of them as having any learning disability.

Those children who still were below the age of nine or ten continued to demonstrate difficulty with the TPT, whereas those children who were ten years of age or older performed normally on this test.

In summary, the results according to Trites suggest that these children do not have a primary language disorder or a generalized learning difficulty but rather have a specific learning difficulty affecting their ability to be educated in a second language at an early age. Trites interprets these results to be consistent with the maturational lag hypothesis, namely that there is evidence of a psychomotor problem - deficit in the early ages which appears to resolve itself after the age of nine or ten.

1.5 Study IV (1984):

In this study the children were evaluated over a three-year period:

- a) at the age of four in English Kindergarten;
- b) at the age of five in French immersion Kindergarten;
- c) at the age of six in grade one.

a) The Four-Year-Old-Kindergarten Study:

Subjects:

English speaking parents who had indicated their intention of enrolling their child in the 5-year-old French immersion kindergarten were asked to participate in this early identification study. 200 children received written parental permission.

Procedure:

All the kindergarten teachers of the participating schools filled out a brief rating scale for each child in their classes. They also distributed a questionnaire to the parents of all their 4-year-old kindergarten classes. In this way, information on all 1,330 children enrolled in these classes was obtained. The teachers' rating provided information about those characteristics deemed important by the teachers in advising whether or not a child should be enrolled in French immersion. The questionnaire to the parents enabled Trites to gather biographical and background information on the children, on their parents and on their homes, in the hope of identifying characteristics of children that parents find important in program selection, and to provide a basis for assessing the representativeness of children enrolled in French immersion kindergarten.

In addition to the teacher rating scale and questionnaire for parents, the 200 children scheduled to enter French immersion in kindergarten submitted to a variety of test measures and behaviour rating. For this purpose, five tests were selected from Circus: An Assessment Program for Pre-primary Children, numbers 2, 5, 7, 9, 13. In addition, each child was given a battery of ten psychometric tests, namely: WPPSI, Peabody Picture Vocabulary Test, Raven's Coloured Matrices, WRAT, Measures of Hand Dominance, Tactual Performance Test, Colour Naming Word Segmentation, Renfrew Action Picture Test, Test Behaviour Observation Guide, Connor's Teacher's Questionnaire, Pupil Rating Scale (Trites, 1984).

Results:

The teacher ratings of 1,330 children showed a strong trend when teachers were asked whether or not they advised French immersion enrollment for a child. This trend was to advise French immersion enrolment for children who were considered to be average in ability, socially mature and motivated.

The questionnaire filled out by the parents showed some differences between children who were to enter the French immersion program and those who were to enter the English program. For the French immersion group, these were:

- 1) a slight tendency for a greater number of females;
- 2) a significant higher socio-economic status;
- 3) parents themselves were more interested in speaking French.

The 200 children that were assessed individually on a psychometric test battery, performed well on all measures as a group.

Results:

Analyzing the above-rated information, Trites concluded that this group of 200 children about to enter French immersion kindergarten was composed of very capable youngsters who were rated highly by their teachers, came from advantaged socio-economic backgrounds, and performed very well on the psychometric tests.

It was also found that parents and teachers unanimously recommended French immersion enrolment for children with very high test results. If parents enrolled their children in French immersion contrary to their teacher's advice, the figures showed that

these children performed more poorly on the Tactual Performance Test, expressive language skills, Colour Naming Test, readiness skills for reading, spelling and arithmetic than did children recommended for French immersion. This non-recommended group also demonstrated more behaviour problems and less competency as rated by teachers and research staff.

In summary, Trites concludes that the results indicate a discernible pattern of differences about children entering French immersion kindergarten and English kindergarten.

b) The Five-Year-Olds in French Immersion Kindergarten Study:

Subjects:

Of the 200 children involved in the four-year-old kindergarten study, 159 were still enrolled in French immersion kindergarten. These 159 children participated in this study.

Procedure:

Comparative analysis was performed based on information obtained from the 4-year-old English kindergarten study test results and their standing in the French immersion kindergarten in order to ascertain the predictive quality of the initial tests.

Results:

It was found that IQ was the predicting achievement measure for English language progress but it was not as important in predicting achievement in French. The Tactual

Performance Test scores were predictive for French language measures but not for the English ones.

In summary, Trites felt that these results tended to strongly suggest that measures obtained in 4-year-old kindergarten were indeed related to subsequent achievement in the French immersion program.

c) The Grade One Study:

Subjects:

At the end of grade one, 124 of the original 200 children were still in the French immersion program. 25 children were clearly identified as Drop-outs from this program because of academic difficulty. Both the Drop-outs and the French immersion children were from similar backgrounds in terms of socio-economic status, sex, and preschool experience. All 124 children continued to participate in this study.

Procedure:

It was examined to see if the advice of the 4- and 5-year-old kindergarten teachers was reliable in predicting who would drop out of the French immersion program. It was not. The teachers rated the children in terms of ability, social maturation and motivation. The grade one French immersion children and the Drop-out group did not differ significantly in this area.

Once again the test results from the four-year-old kindergarten testing were compared to how well the group was performing in grade one and to see if it was accurate in predicting who would most likely drop out of French immersion.

Results:

The French immersion group was all-round brighter than the Drop-out group, yet this latter group was by no means deficient in terms of readiness skills or IQ. It was of great interest to Trites to find that the French immersion Drop-out group performed significantly poorer on the TPT even when Full Scale IQ was controlled statistically. These findings were consistent with those in the previous studies.

It was noted that the Drop-out group responded well to English language instruction and was progressing normally in the regular English stream. This result seemed to suggest that these children's difficulties were in French language skills only.

The 124 children that still attended French immersion were also subdivided into high and low achievers in order to determine if the results obtained from the initial testing were predictive of this trend. The children in these groups were classified correctly into their groups between 80% - 100% accuracy on the basis of the four-year-old kindergarten battery tests.

Discussion:

Trites was able to predict with extreme accuracy young children who would most likely encounter difficulty in an early French immersion program, drop out of the program or progress very satisfactorily in it, by using a combination of 14 tests that was given at the end of four-year-old kindergarten. The four studies discussed above indicated that children who encountered difficulty in French immersion had a unique pattern of skills and deficits characterized by a high IQ, excellent motor and sensory function along with normal perceptual and language functions, but performed poorly on the TPT. The findings were interpreted as evidence of a maturational lag in the temporal lobe regions of the brain which, with age, would disappear. Because the findings showed this lag to be age related, Trites came to the conclusions stated below.

1.6 Trites' Conclusions:

Trites felt that his four interrelated studies demonstrated that the neuropsychological test profile of children experiencing difficulties in the French immersion program is quite different from that of children successful in the same program. This profile is distinct from that of children who have primary reading disability, emotional disturbance, hyperactivity as well as minimal brain dysfunction. Trites maintains that the statistical results indicate the main identifying measure on the test battery to be the TPT, a neuropsychological measure sensitive to the temporal lobe regions of the brain. The neuropsychological literature cited

by Trites (1976) seems to uphold his contention that the temporal lobes play an important role in memory, language and auditory perceptual functions.

Trites strongly recommends that any child experiencing difficulties in the French immersion program should be switched immediately to the regular English program. He feels his studies demonstrated that, although bright and well motivated, children having difficulties learning in the French immersion program progress satisfactorily once placed in the regular English program. Since this learning difficulty is age-related and seems to disappear by age nine or ten, children who were held back from early French immersion may enter the immersion experience at a later grade level and be expected to progress satisfactorily.

He also asserts that his early identification assessment battery for four-year-old kindergarten easily identifies a temporal lobe maturational lag at this early age, therefore possessing the potential of sparing young children from possible negative early school experiences.

Now that Trites' experiments have been examined in detail and his interpretations of the results discussed, it is time to expose the various criticism, levelled against his work.

1.7 Critique of Trites' Work:

As soon as Trites' studies were published, his experiments were criticized, especially his interpretations of the results. It was felt by some (Genesee, 1983) that the studies were well designed, involving a large number of test instruments and control groups, yet Trites' results brought forth a barrage of criticism from his peers.

In the section below the critique of Stern et al. will be mentioned in passing, Jim Cummins' scathing criticism will be discussed in greater detail, followed by a discussion of Fred Genesee's denunciation of Trites' results.

a) Stern:

In 1976, Stern et al. pointed out that the French immersion difficulty group from Study I may not have been representative of children in general who experience difficulty in early immersion. This study was open to bias, as all children participating in it had been referred to the clinic for the purpose of uncovering reasons for their school failure. Trites and his colleague acted on this criticism by undertaking the second study also called the Cross-Validation Study.

b) Jim Cummins:

Jim Cummins based his master thesis on critically analyzing the results published by Trites. Based on this work, Cummins (1978) wrote a scathing attack in the Canadian Modern Language Review. Cummins contends that the interpretations arrived at by Trites are not only invalid but also that his data support a conclusion the exact opposite to the one he drew. In addition the fact that nonsignificant differences were not reported as such invalidate all interpretations. He also insists the author failed to point out that many of the students who transferred out of French immersion repeated or dropped back a grade level, therefore progressing less than those who remained in French immersion. These reinterpretations of Trites' data certainly dampened the reception of Trites' findings.

In his book, Cummins (1984) criticizes Trites' studies further, stating that it is impossible to know which hemispheric lobes are involved in the TPT, and that it is not established conclusively what the TPT is really measuring. Due to these uncertainties, Cummins is adamant that Trites' interpretations of the test results are purely speculative.

Cummins continues by assaulting the basic research design, claiming it to be incapable of providing answers to the research question, namely whether the program affects students differently although they have similar initial characteristics. Cummins points out that the students in the regular English classes were never tested, therefore it is not known whether poor TPT performance is a characteristic of low-achievers in English classes as Trites suggested in this case in French immersion classes.

Using the demonstrated weaknesses in the Trites' studies, Cummins skillfully manoeuvres his attack to illustrate how human beings, often unwittingly, turn on a victim, namely the child with learning difficulties. Cummins agrees that indeed there is some evidence the French immersion Drop-outs are different in certain respects from regular students in the English program; the French immersion Drop-outs are characterized by relatively high IQ scores. Cummins contends that they may not have been Drop-outs per se but rather "push-outs". Because they performed well below the extremely high average of their classmates, they may have had difficulty in meeting teachers' expectations. They may consequently have been considered academically weak and unable to meet the work requirement. Their so called neurological impairment came as a convenient label supporting the negative perceptions their teachers may have had of the weaker student's academic ability. The teacher could then gratefully accept the recommendations made by Trites that such students would be better off in the regular English program conveniently screening the pedagogy from critical scrutiny.

c) Fred Genesee:

Fred Genesee (1983) similarly to Cummins mounts an attack on the studies conducted by Trites. He compares the construct of the experiments used by Trites to those used by Bruck (to be reported on below), indicating the former to be quite weak. Genesee also enumerates flaws of the studies as discussed by Cummins.

In his book published in 1987, Genesee as did Cummins before him, vigorously continues his onslaught on Trites' conclusion. He enumerates arguments already stated by Stern et al. (1976) that the Trites samples constitute a clinical or non-random sample of immersion students. Cummins (1984) questioned the validity of the TPT's sensitivity of measuring the functioning of the two temporal lobes. Genesee delved into greater detail to demonstrate the unsoundness of this test as performed by Trites.

Genesee highlights the fact that since the learning difficulty seems to have been caused by the second language environment (as concluded by Trites) then this test profile should be found in other groups of students who are in a similar linguistic situation. This indeed was the case. Trites reported that the same test profile characterized English children who were referred to him because they were experiencing difficulty in French schools however this profile did not apply to minority language students who were having problems in English language school. Genesee found this extremely unbelievable.

I would like to point out that the minority students' language situation differed considerably from the one English students in French Schools were exposed to, in that the minority students most likely experienced English culture via television, friends and shopping expeditions, unlike the English students who probably had no contact with the French culture but lived segregated from it very much like the French immersion students.

In other words, the minority language students were part of the culture of their school language, whereas the English students in French schools were not, exposing the two groups of students to a very different linguistic situation indeed.

Genesee concludes his critique by comparing Bruck's study results to those of Trites, stating that the French immersion problem group probably suffered from low academic ability and that they would progress at the rate and limits set by their particular problems, at the same time acquiring much higher levels of second language proficiency than they would in a regular English program. This is very much in line with the Bruck results, but does not really apply to the immersion difficulty group because Trites, as well as Cummins (1983), points out the bright nature of the subjects in question.

In summary, the most serious criticism stems from two well-known researchers in the second language learning domain, Cummins and Genesee. Both fundamentally disagree not only with the construct of the Trites' studies but also with the statistical analysis performed, the interpretations of the results and, consequently, the conclusions drawn.

CHAPTER 2

In the previous chapter the four studies conducted by Trites have been detailed, his interpretations of the test results explained and the criticism against his work expressed. This chapter aims to discuss the studies in relation to children with language/learning disabilities in early French immersion led by Bruck, her recommendations arising out of these studies and the research which supports her findings.

2.1 Experiments by Bruck:

For several years, Margaret Bruck has been involved with the testing of immersion children. She published many papers concerning children with learning difficulties based on two major studies conducted between 1970 and 1985. Her home base is the McGill - Montreal Children's Hospital Learning Center on Mountain Street in Montreal.

In 1975, Bruck along with co-authors M. S. Rabinovitch and M. Oates published a preliminary report describing an on-going investigation which they had begun in 1970 on how English-speaking children experiencing language disabilities, cope with French immersion programs. However, the conclusions arrived at in the preliminary study are tentative as the sample size was rather small.

Between 1978 and 1984 Bruck published three further papers reporting the longitudinal study that emerged from the aforementioned preliminary study. This

longitudinal research project was funded by grants from the Quebec Ministry of Education and the Department of Secretary of State, as well as through a National Health Research Scholar award from the National Health and Welfare Research Development Program. The aim of this longitudinal study was very practical in nature, in that it wanted to establish empirically whether children with language learning disabilities should be left in the French immersion program or be transferred to an all English program.

Bruck was very concerned about the controversy that has arisen out of the studies conducted by Trites and by herself regarding the suitability of early French immersion programs for children afflicted with learning problems. As a result, she undertook another pilot study (Bruck, 1978-79) to systematically gather information, so that educators and parents may base decisions on objective facts rather than upon emotions and intuitions. This pilot study was the springboard to a full-scale study about which Bruck reported in 1985. The study aimed to examine the factors that best predict which elementary school children will most likely transfer out of a French immersion program, as well as whether the consequences of the transfer had positive or negative effects on the children's academic progress and emotional state.

The two major studies will be analyzed in turn. The first study consists of the preliminary study, followed by the longitudinal one which intended to establish empirically if children with learning difficulties should be left in French immersion or if they should be transferred out of it. The second inquiry to be scrutinized encompasses its pilot study followed by the major study aiming to answer these two questions: a) what are the

predictors, if any, of transfer students who opt out of early French immersion programs; b) what are the consequences, if any, of this action.

2.2 Study I (1975):

a) The Preliminary Inquiry:

Bruck was well informed about the positive outcomes of the French immersion programs in general, yet she was acutely aware about the lack of empirical information concerning the cognitive and affective development of children handicapped by language learning disabilities. This preliminary study reports the results obtained from a small group of children whose progress was followed from kindergarten through to grade three.

Study Design and Subjects:

Four groups of children from English-speaking homes were identified at the beginning of kindergarten. The groups were divided according to the following characteristics:

- 1) Children with language impairment in French immersion programs (FP).
- 2) Children with language impairment in regular English classes (EP). It was felt that a comparison of this group's progress with that of the French problem group would

indicate the specific effects of French immersion education on children with language impairment.

- 3) Children with normal language development in the French immersion programs (FC). The progress of this group would permit the evaluation of the differential effect that the education in a second language had on children with language retardation, and on children with normal language development.
- 4) Children with normal language development in regular English classes (EC). When comparing the progress made by this group to that of the English problem group, inferences can be made on how children with language difficulties are doing in the traditional English classes. Any divergence in the results between normal and problem children's performance in English classes need to be compared to the differences found between normal and problem children's performance in French immersion programs. The inter-comparison of all four groups is necessary in order to establish any discrepancies between them. Any discrepancy occurring between the normal groups must be taken into account when the two problem groups are compared.

Method:

Language-learning disabilities were identified in kindergarten children using the following screening test battery in the beginning of the kindergarten year: Object manipulation test, story retelling test, sentence initiation test, echolalia test. At first, only the problem children were tested but then in 1972 it was considered to be necessary to also

give the screening battery to all control children. Once the French problem and English problem children were identified, appropriate control children were selected on the basis of sex, age in months, class teacher, and location of home which was used as a rough measure of socio-economic status.

All subjects participating in this study were tested in January of their kindergarten year, as well as every January in grades one through grade three.

The following assessment battery was given in kindergarten: 1) Full scale Wechsler Preschool and Primary Scale of Intelligence (WPPSI). 2) Illinois Test of Psycholinguistic Abilities (ITPA): Auditory Reception, Visual Reception, Visual Sequential Memory, Auditory Association, Auditory Sequential Memory, Visual Association, Grammatical Closure. 3) Form A of the Peabody Picture Vocabulary Test (PPVT). 4) Northwestern Syntax Screening Test (NSST).

In grade one a similar battery to the one in kindergarten was administered with the following changes: 1) The WPPSI was not given. 2) Vocabulary and similarities of the WISC. 3) Auditory Closure and Sound Blending of the ITPA. 4) Form B of the Peabody. 5) Arithmetic subtest of the Metropolitan Achievement Test, Level I, Form A was given in January 1973 and 1974.

The battery given in grade two was once again similar to the one in grade one except for the following changes: 1) Wide Range Achievement Test (WRAT). 2) Spache

Diagnostic Reading Scales Test was only given in March. 3) Metropolitan Achievement Arithmetic subtests, Level 2, Form A. 4) Form A of the Peabody.

The grade three tests that were administered were: 1) Full Scale Wechsler Intelligence Scale for children (WISC). 2) Nine subtests of the ITPA. 3) Form B of the Peabody. 4) WRAT. 5) Spache, given in March. 6) Computation and problem-solving subtests of the Metropolitan Achievement Test, Form A, elementary battery.

In addition to the assessment battery, pupils were observed informally in the classroom setting. Their teachers were interviewed about the pupils' achievement in reading, writing and arithmetic, as well as any specific behavioural problems. The French immersion teachers were asked how much and how well the students communicated in French. This aspect of the evaluation was totally anecdotal in order to support or clarify the test data where appropriate.

Results:

The overall problem in this study has been that of attrition. The English groups lost subjects due to parents moving out of Quebec whereas the French immersion groups lost children to the regular English classes as there was a lack of remedial services for these children.

Grade One:

According to the test results of grade one, there was no indication that the French problem children were performing any differently from the English problem children. Bruck

felt that the French problem children were not encountering any more problems than if they had been in the English program. The problem children in French immersion were experiencing difficulties but so were the problem children in the English program.

She does highlight the importance of the teacher's attitude to the problem children in French immersion, pointing out that if the teacher is accommodating, by individualizing the instruction when needed, the child having difficulties will progress. However, if the teacher is unfeeling, refusing to give individual help to a child in need, this child will most likely fail.

Grade Two:

The French immersion children were introduced to reading in English in this grade but were not given formal spelling instruction. Bruck was surprised that the French problem group was reading at or was performing just below grade level.

She does deplore that the French problem groups were receiving remedial reading help in English. Bruck is of the opinion that the introduction of English reading should be held off until grade three in order to give the slow children a chance to grasp the essentials of the reading process in one language which they then could transfer to reading in English. The French problem group was performing at grade level and was not experiencing any particular difficulty in mathematics.

Unfortunately Bruck found no appropriate test to measure Anglophone children's knowledge of French. She did find that the French problem children had a good accent,

were able to read an unfamiliar text in French and answer a few basic questions about its content. Their teachers reported that these children were able to communicate satisfactorily in French and that they understood what was going on in the classroom.

Grade Three:

As was the case for grade 2, no statistical analyses were performed on the data due to the very small number of children.

It was found that three French problem children were reading above-grade level which had not been the case in the previous years. Bruck felt that the French problem children made commendable progress in both reading and mathematics.

b) The Longitudinal Study:

Design:

Similarly to the preliminary study, the subjects participating in this longitudinal study were divided into four different groups, the French problem children (FP), the English problem children (EP), children with normal language development in French immersion (FC) and in the regular English stream (EC). As in the previously discussed study, the children here were monitored from the middle of kindergarten to the end of grade three in the following areas: first-and second-language skills, cognitive development and school achievement. Again teacher evaluations of individual students were obtained at the end of each school year.

Subjects:

Children were selected from 7 different schools, either attending one of 14 French immersion classes, or one of ten English classes. In kindergarten each of the four specified groups started out with 100 children.

To belong to one of the problem groups, a child had to meet one of the following criteria:

- 1) First language was English.
- 2) Teacher identified child as having poor language skills.
- 3) A specialist in child languages judged child to have a language problem.
- 4) Diagnostic screening test (see preliminary study), child scored lower than 35 out of 59.
- 5) Child had normal IQ.

The study took ten years to complete because the incidence of language-learning disability is low and due to the high attrition rates (see above).

Method:

As was the case for the preliminary study all the children were tested in the winter at every grade level, from kindergarten to grade 3. The diagnostic tests were the same except a few more were added in this study such as the Golick Sentence Imitation Test, for instance.

For supplementary information, the teachers of grade one to three were asked to evaluate the participating students on a number of scales, such as the student's performance in reading, writing, math, and oral as well as receptive language.

French-language skills were assessed at the end of the school year from grades one to three using the following means: 1) Teacher Ratings or Interviews, 2) OISE French Listening Comprehension Test, Level I. Not only the French immersion children were given this test but also the two English groups.

Results:

This study clearly demonstrated that children with language disabilities benefit from three years of education in a second-language environment. The language impaired children not only acquired proficiency in the French language but also continued to develop English language skills.

Although the French problem children were taught in French, they still learned the basic concepts of reading, math and spelling even if at a slower rate. Furthermore, this group of children's linguistic and cognitive skills were similar to those of language-impaired

children who had been totally schooled in their first language. Particularly surprising is that the French immersion problem children succeeded without any special adjustments or help.

Bruck points out that the two problem groups were not quite the same in terms of the severity of their disability. The English problem group had a lower nonverbal ability score than the French problem group. She explained that this discrepancy may be indicative of a natural selection factor influencing which children leave, which ones stay in French immersion, as well as which children are placed into French immersion by their parents.

Bruck was pleasantly surprised how well the language disabled group acquired their second language in spite of their slow first language development. In fact by grade three, this language impaired group performed similarly on the listening comprehension test as did the French control children. Although the language problem group had more difficulty expressing themselves than the French control group, they were learning not one but two languages at an admirable rate.

Bruck had noticed in her clinical practice that many language-disabled children could not cope with the typical French-as-a-second language program, which usually consisted of daily 20 to 40 minutes of French. They often graduated from school with almost no knowledge of French. The French immersion program, to the contrary, provided a more suitable, if one can say natural environment for the language impaired children to learn to speak French.

2.3 Study II (1978):

The second major study undertaken by Bruck can be divided into three parts. First she again initiated a pilot study following up on nine children who had dropped out of her longitudinal study, assembling all the available data, retesting them, and then presenting three cases as being representative of all nine cases she studied.

The second part of Study II consisted of a major predictor study, where Bruck had those children identified by their teachers who would most likely transfer out of the French immersion program because of learning difficulties and those who would most likely remain in spite of these difficulties. She then tested them while still in French immersion and again the following year when some of the children had actually transferred out, while still others continued in the French immersion program although they too suffered from poor progress. This last aspect of the study is called the consequence of transfer study, making it the third and last part of Study II.

a) Pilot Study:

Still concerned by the lack of systematic research on the controversial issue regarding the suitability of early French immersion programs for children with learning problems, Bruck embarked on yet another study even before completing her longitudinal one. In this study she addresses the question whether children would be better served if they were switched to an English program.

Because of the small number of subjects (N=9), no definitive statements about the feasibility of switching could be made from the data collected; rather the aim was to collect case histories of children who had switched out of French immersion for the purpose of generating specific hypotheses which could then be tested in a larger, more systematic study.

Subjects:

The subjects were Drop-out students from the longitudinal study described earlier. Because of academic difficulties they switched to the English stream. As they had been involved in Bruck's previous study, they had been screened in kindergarten and subsequently evaluated annually on a battery of tests. In the spring of 1978, the Drop-outs were located and tested, at which time three of the nine children were in grade six, one in grade five, two in grade three and three in grade two.

Procedures:

IQ scores, achievement test scores and teachers' reports were available for each participant of the present study from the time he/she participated in the longitudinal study. This information served as a baseline.

In June of the follow-up year a battery of academic tests was administered to each child. This battery consisted of: 1) Spache Diagnostic Reading Scales; 2) Metropolitan Achievement Test; and, 3) Wide Range Achievement Test.

The school provided an academic history which included the following information: the kinds of classes, remedial services, assessments and school grades each participant had received since dropping out of the French immersion stream. The student's current teacher provided an update on his/her academic strengths and weaknesses, classroom behaviour and peer relationships. The teachers were also asked to complete a student rating form and to indicate if the switch to the regular English stream had benefitted the child.

Parents participated by giving information about the child's academic, social and emotional standing while he had been in a French immersion program and after he had switched into the English stream. The interview also gave an inside view of the parents' attitudes and expectations about French immersion programs as well as the English ones.

Design:

Due to the diversity and the small number of subjects, nine case histories were constructed. Three representative cases were then chosen to be reported on. These three cases attempted to highlight whether the switch out of French immersion had been a successful solution to the child's problems.

Discussion:

The three cases demonstrated how difficult and complex it is to evaluate the consequences of switching. There are few unqualified successes, as the problems that occurred in French immersion may persist even when the child is switched to the English stream. Furthermore, the switch is often considered more successful for children who have

switched recently than for those who have been in the English stream for several years. Moreover, parents feel that the switch was successful because they now can experience a greater involvement in their child's school work, thereby contributing to the child's adjustment to the English stream. Finally, the child in the English stream is now eligible to receive extra help in his/her area of weakness, as remediation was not systematically available to him/her in the French immersion program.

b) The Predictor Study:

While working with and studying children with learning difficulties, Bruck's awareness grew that little was known about the interrelationship of factors that are associated with the persistence of second language learning in elementary school children. Once again, there were no systematic studies available as reference points to examine the motivational, attitudinal and cognitive characteristics that differentiate children who continue studying a second language from those who terminate these studies.

There is some descriptive data available suggesting that poor academic achievement and frustration are the major reasons for transferring out of immersion programs (Bruck, 1979, 1978-80; Morrison, Pawley and Bonyun, 1979) but the data from these studies are difficult to interpret because the children were always identified after they had left the program and because an appropriate control group was not available.

In this study Bruck sets out to examine the predictors of transfer out of immersion programs by assessing the cognitive, attitudinal, motivational, and affective characteristics of low achieving French immersion children. The progress of these children was followed in order to establish which ones remained or which ones left the French immersion program, making this a prospective study rather than a retrospective one.

Bruck assessed learner characteristics, parental and family background factors in the hope of determining if any of these factors played an important part in predicting program departure. Furthermore, she compared children who transferred with those who continued despite academic difficulties in order to isolate those factors which predict program transfer.

Design:

French immersion teachers were asked to indicate those children doing poorly, who would or should therefore transfer to the English stream. These teachers also identified children who were experiencing academic difficulties but would most likely continue in French immersion.

All the teacher-identified children were tested, and parents and teachers were interviewed before the end of the school year. The following school year the children's class placement was noted in order to establish which children had transferred to the English stream. Furthermore, all children, the transfers as well as the controls, were retested at the end of the school year.

In this second part of Bruck's Study II, she reported only the transfer children's data which was based on their test data just prior to their transfer to an English stream.

Subjects:

Ten schools participated in the study. French immersion teachers from grades two to four answered a short questionnaire about each child in their class. To be selected for the study, the child had to come from an English-speaking home, experience academic difficulties and be a possible transfer candidate. On the other hand, children with academic difficulties but who were not identified by their teachers for transfer were also chosen for the study. Each likely transfer child was matched when possible with a poorly achieving classmate of the same sex who was not nominated for transfer. Parental written permission was obtained for 74 children who were then tested during the spring of the same school year, 30 of whom transferred to the English stream and 44 remained in the immersion stream despite academic difficulties.

Procedure:

Children that had been selected to participate in the study were administered a battery of tests in the year before transfer took place in order to obtain a baseline on their cognitive abilities, academic achievement, oral communication skills, as well as attitudes and motivations. Information was also received from parents through interviews and written questionnaires. Teachers gave their input via a written questionnaire only.

Tests:

Assessment of cognitive skills: Subtests of Peabody Individual Achievement Test (PIAT), Peabody Picture Vocabulary Test, and Ravens Progressive Matrices.

Assessment of English academic achievement: Subtests of PIAT for word recognition, reading comprehension, spelling and mathematics. Wide Range Achievement Test (WRAT) for English language skills as well as mathematics concepts and computational skills.

Assessment of French literacy skills: Oral reading test adapted from Trois Tests de Lecture Orale, reading comprehension test, 65 items were drawn from Le Degré Intérieur de L'Institut Supérieur de Pédagogie Hainaut and the Ontario Institute for Studies in Education (OISE) Reading Comprehension tests.

Assessment of French oral communication skills:

- a) Listening comprehension: items were selected from OISE Listening Comprehension Test, Trilingual Project Listening Comprehension Test and a test developed by the Centre Educatif et Culturel.
- b) Oral production: a referential communication test was assembled where the child was instructed to describe a picture to the examiner who would then try to surmise the correct picture from a display of similar pictures. All interactions were tape-recorded and later transcribed. Lexical and verb usage were analyzed for different types of errors.

Assessment of attitudes and motivations:

Children filled out an attitude questionnaire containing 39 items which were obtained from the Piers-Harris self-concept scale and from a test developed by Genesee and Hamayan.

At the end of the school year French immersion and English teachers completed a questionnaire rating the children's reading, writing, mathematics, speaking and listening skills. The teachers also indicated if they thought the child should transfer out of French immersion and gave reasons for their decision. They also completed Connor's Teacher Rating Scale so that conduct problems, hyperactivity and inattention-passivity could be assessed independently.

Parents filled a written questionnaire rating, their own as well as their spouse's competence in reading, writing, speaking and understanding French; their use of French and their motivation for learning French. They also rated reasons for putting their child in French immersion and for taking their child out of French immersion.

Results:

The results will be presented in three parts:

- a) the teachers' evaluation;
- b) the child test data;
- c) the family characteristics and perceptions.

a) Teachers' Evaluation:

When rating the overall academic achievement, teachers demonstrated that transfer and control groups alike experienced academic difficulties. Both groups were rated to be at the bottom 40% of the class. However, the teachers did not rate the transfer children to be academically more disabled than the controls.

The English teachers rated both groups of children as having fewer behaviour problems than did the immersion teachers who perceived more problems overall. Nonetheless both the immersion and English teachers discerned transfer children to have more behavioural problems than did the control children. Hence, it became evident from the teachers' data that a variety of behavioural problems combined with academic problems were associated with the transfer out of the immersion program.

b) Child Test Data:

The transfer and control groups both performed comparably within the average range on two measures of verbal intelligence and on a test of non-verbal reasoning. The English academic achievement tests indicated that again the two groups performed similarly on measures of reading and spelling, however, this time both performed below average. On the French test, all project subjects were experiencing difficulty in French reading and spelling, functioning at least one year below grade level.

When analyzing oral French skills, the control and transfer children both had below-average test scores. Whereas on the oral production test, the transfer children produced

significantly fewer details than did the controls, and yet there were no differences between the two groups in terms of lexical usage, verb error, or other structural errors.

The attitude questionnaire filled out by all the participating children uncovered revealing information about these children. The control children's ratings were significantly more positive than those of the transfer children. The control children liked French classes and going to school more; they found school less boring and more appealing; they found it easier to speak to the French teacher, they were more at ease speaking French in front of the class; they felt more positive about knowing and playing with French-Canadian children. Interestingly though, there were no significant between-group differences on items reflecting children's general self-concept as learners and as good students. Of great importance is the fact that the control children also found it easier than the transfer children to talk to their English teachers. This data suggests that the transfer children's behaviour and attitudes may not be specific to the second language but may reflect general affective reactions.

The data revealed that the transfer children find it difficult to adjust and are unhappy in a number of school-related situations. Their negative attitude towards school and their dislike of French distinguish them from the control children whose attitudes in certain respects were extremely positive. Consequently, it may be the positive dispositions toward school and learning, as well as toward using the second language that are the key characteristics of children who, despite of poor achievement, continue in French immersion programs.

Family Characteristics and Perceptions:

The data obtained from the parents show that there were no differences between the transfer and control families in terms of socio-economic, educational, ethnic, linguistic, or socio-linguistic factors. This information suggests that home background factors were not important predictors of program continuation. It appears that parents decided to remove their children not only because of teacher recommendation, but also because they realized that their child was doing poorly in school and was suffering emotionally. The parents had a difficult time in making this decision as they were acutely aware of the importance of being bilingual in Canadian society, and because they were not convinced that the second-language was the cause of their children's problems.

In summary, non-academic variables rather than cognitive or academic variables best predicted transfer rates. The interesting revelation was that the child's own rating of his comfort in using French in a public setting as well as the class teacher's rating of the child's behaviour in the class setting accounted for which children would eventually transfer out of the immersion program.

c) The Consequence Study:

In this study Bruck attempts to address a number of up-to-now unresolved issues. She felt there was a dire need for a well controlled examination of cognitive, academic, social, psychological and linguistic consequences brought about by the transferring of poor achieving English speaking students out of French immersion programs. She undertakes to

isolate factors which best account for poor performance in French immersion programs. Moreover she strives to address the question whether children with learning difficulties might perform better were they to opt out of the French immersion program and receive all their instruction in their native tongue. Furthermore, she sets about to find out if children perform well because of positive attitudes or whether they develop positive attitudes because of good performance. Finally, she examines the effects that limited exposure has on the maintenance of previously acquired second language skills. She endeavors to answer the above-stated issues by comparing the academic levels, second language skills and affective characteristics of students who have transferred out of the French immersion program to those children who, despite academic difficulty, had remained in the French immersion program.

Subjects, Design, Procedure:

For information pertaining to the selection of subjects, design and procedures followed in this study, please, refer to the Predictor Study page 43.

Results:

The change in the transfer children's functioning after one year in the English program was compared to that of the control group who remained in the French immersion program despite academic difficulties, in order to assess the consequences of transfer.

The results of this study will be discussed according to the following headings:

- a) academic and cognitive consequences of transfer;
- b) school attitudes and classroom behaviour;

- c) attitudes and motivations towards second language learning;
- d) maintenance and loss of second language skills.

a) Academic and Cognitive Consequences of Transfer:

In general, teachers noticed an improvement in the children's skills even though they still received slightly below-average ratings. It can therefore be stated that all children according to their teachers' ratings were slowly overcoming academic problems and that the rate of improvement was not related to transfer out of the immersion program. According to the test data, both transfer and control children were catching up with their peers, since both groups performed similarly on both pre- and post-tests.

b) School Attitudes and Classroom Behaviour:

The English teachers' rating results indicated the transfer children showed more hyperactive and conduct problem symptoms than did the control children. However, the transfer group also demonstrated better work habits after transferring into the English stream. Even though some behavioural problems may have disappeared as a consequence of transfer, the transfer children nonetheless continued to demonstrate more inappropriate behaviour than did the control children.

From the results it can be concluded that the behavioural problems that the transfer children displayed in immersion were not a result of education in a second language, but rather these problems arose as a result of a basic personality characteristic that continued regardless of language of education.

c) Attitudes and Motivations Towards Second Language Learning:

There was no evidence that the transfer children showed attitudinal changes as a consequence of transfer. Their attitudes were still as negative as at the pre-test. Therefore, the negative attitudes were not consequences but rather precursors of transfer out of immersion.

On the other hand, the parents' perceptions about the importance of second language learning and its effect on their children's development changed as a consequence of transfer. The parents now felt that too much importance had been placed on second language learning in the past, to the detriment of their child's development. This perception of the negative effects of second language education was a new development since their children had left the immersion programs.

d) Maintenance and Loss of Second Language Skills:

The results show that the transfer children did not lose their second language skills except in the lexical usage where they made more errors than the control group. Furthermore, the French-as-a-second language program allowed maintenance of skills that had been acquired in the French immersion program.

In summary, the negative attitudes and poor school behaviour that characterized the transfer children while they were in the immersion program continued to characterize them after transfer even though academically they showed improvement, albeit not at a greater rate than that shown by the control group, who continued in the immersion program despite their learning-disabilities. The data, therefore, suggests that the child's basic cognitive and affective characteristics rather than factors associated with second language learning, influence academic achievement, attitudes and motivations related to school work.

2.4 Bruck's Recommendations:

Bruck's recommendations for action are straightforward and precise. She is adamant that learning disabled children be retained in the French immersion program and be given the appropriate remediation, since they do benefit greatly from the French immersion experience.

Her research has demonstrated that learning disabled children do continue to develop facility in their first language; they do learn their basic academic skills at a rate similar to a comparable group of children in the English stream; and most of all, they acquire greater competency in French. Bruck noticed while working with learning-impaired children in the past that those who follow the traditional French-as-a-second language program, leave school with almost no knowledge of French. It appears that the French immersion program provides a more suitable environment for these children to learn a second language.

Rather than switching a child who is encountering difficulties with his school work, she strongly recommends to provide him/her with remedial services in the context of the French immersion program. By means of systematic investigation she has been able to establish that children who moved to the English stream because of their difficulties were encountering problems similar to those they had been experiencing in their French immersion class. She is of the opinion that switching the problem child to the regular English stream, is not addressing the problem directly; it is simply passing the problem on to established remedial programs, all the while ignoring the need for a similar support system in French immersion. Bruck feels, it is imperative that remediation programs be provided in French and not in the mother tongue. This change in format will require a strong commitment from educators and administrators alike, to provide teacher retraining, test development and program design especially suited for the French immersion child.

Bruck strongly believes that the French immersion programs should be made available to the average English-Canadian child regardless of his/her learning problems and

that these programs must evolve in order to accommodate children with a wide range of learning abilities.

2.5 Those in Support of Bruck:

The controversy over what to do with children experiencing difficulties in French immersion was not only fuelled by the publications of Trites and Bruck, but also by others who investigated the same topic in the hope of finding more clues towards its resolution. Invariably they sided either with Trites' or Bruck's recommendations. Those researchers upholding Bruck's findings outnumber those supporting Trites' recommendations.

In the section below, the work of five researchers working either alone or in groups siding with Bruck will be described. They are: F. Morrison, C. Pawley and R. Bonyun who published their study in 1979; R. Bonyun, F. Morrison and J. Unitt whose work was published in 1986; R. Hayden published her study in 1988; J. Cummins gives a detailed discussion of the controversy in his book published in 1984; and finally F. Genesee similarly analyzes and presents his view on this topic in his book printed in 1987.

a) Morrison, Pawley and Bonyun:

The research study of Morrison, Pawley and Bonyun (1979) was undertaken to track down the participants of two groups of immersion students who had taken part in two separate investigations in order to determine the overall success of the immersion programs in the Ottawa and Carleton areas. It was hoped that this tracing procedure would procure reasons for pupils dropping out of the immersion program which in turn could be useful in shaping future immersion programs to meet the needs of all students.

Whereas the design of this study is not relevant to the present discussion, the concluding remarks bear out Bruck's findings in full. In the above-mentioned study, the parents of both cohorts were asked to fill out questionnaires in order to give the researchers information on home background, personality characteristics of their child and difficulties their child experienced in the immersion program. Although the main reason for transfer tended to be an individual matter, the most frequently cited categories were behavioural/emotional, geographical and academic. Bruck systematically eliminated the geographical factor from her study, so that in her consequence of transfer study she was left with affective and cognitive reasons for transfer. The authors of this study interestingly concluded their work with the comment that because of the diversity of the data, a screening test to determine if a particular child would flourish in French immersion would not be useful. With this statement, Trites' efforts to establish an early screening test for kindergarten children prior to grade one French immersion enrollment are thoroughly discouraged.

b) Bonyun, Morrison and Unitt:

In November of 1986 Bonyun, Morrison and Unitt published a research project investigating, once again, the transfer of primary students out of French immersion programs. The study was conducted in the Ottawa-Carleton area in 1985, focusing on students who had transferred out of the early French immersion program, with the intention of gathering insight on how the decision was arrived at and what was done to help the child adjust to the change.

Parents and teachers were asked to complete a questionnaire about the children in question. In addition, some school principals were interviewed to obtain a further perspective.

One of the main reasons for transfer cited by parents was the lack of remedial help in the French immersion program; the same bone of contention that Bruck voiced right from her first research publication on this topic in 1975. This aspect was also upheld by some of the principals interviewed. One principal clearly stated that prior to transfer no extra help was available for students with learning difficulties in French immersion. However, another principal alluded to changes taking place and that the decision to transfer no longer was the only alternative for a child having a hard time in French immersion.

The report mentions the traumatic effect the transfer experience has on many children. Parents and children themselves often perceive an aspect of failure when transfer is initiated. This negative aspect of transfer was also mentioned in passing by Bruck (1975).

With respect to the characteristics of children who transfer out of French immersion, over half of the parents described their child's negative attitude towards school prior to transfer. Some parents added that their child was reluctant to go to school, frustrated, withdrawn, or lacked confidence and enthusiasm. It is interesting to note that the receiving English teachers involved in this study remarked on the group's poor self-concept, lack of confidence, poor listening skills and short attention span. These remarks corroborate Bruck's conclusion that second language learning is not the cause of the child's school problems but rather reflects the child's basic cognitive/affective characteristic. Furthermore, switching the child from the French immersion program to an English one will not automatically resolve the child's difficulties, as the child will probably continue to exhibit similar problems in the English class. The outcome of this study upholds exactly what Bruck has been saying.

c) Ruth Hayden:

Ruth Hayden (1988) published an interesting as well as informative article about a research study she conducted concerning French immersion Drop-outs. The intent of this study was twofold: first to seek out what parents and teachers considered the principal factors when deciding to remove a child from the French immersion program; second to discover how the Drop-out child feels about his/her French immersion experience and what he/she thinks caused him/her to withdraw from it.

The study itself was small scale involving 28 children from grades one to six whose academic program had been interrupted by the transfer during one school year. The

information was gathered through open-ended telephone interviews using leading questions in order to generate discussion which were taped and later transcribed. Journal reports were also written upon completion of each interview.

Throughout this paper Hayden compares her data to that of Bruck's (1985) study, finding many similarities. As in the case of Bruck's study, a large majority of parents in this one perceived academic difficulty as the main deciding factor for leaving French immersion. Again similar to Bruck's results, parents in this study focused on their child's unhappiness with school; not so much with the French immersion program per se as with the frustration and emotional stress that arose from not being able to succeed academically in the program. Bruck (1975) from the beginning stressed the need for remedial help in the French immersion context. Here too, half of the parents felt that their children were not provided the special help they needed to overcome their deficiencies. Although the parents were acutely aware of their impotence to help their troubled children with homework, they did not express a negative attitude towards the French immersion program. This result is again similar to that of Bruck, where she noted that parents prior to the study were fully supportive of the French immersion program. In contrast to Bruck's study where parents felt soured toward French immersion once their child had transferred to the English stream, in this study most parents continued to support this type of second language learning in that their other children continued with French immersion in spite of the withdrawal of a sibling from the program.

The author's discussion of the reasons teachers cited for children withdrawing from the French immersion program is particularly relevant. The main reason for transfer as

identified by the teachers was test results particularly in the language arts. Transfer was only recommended after test results confirmed teachers' suspicions. A child according to the teachers' report is therefore transferred mainly because of unsuccessful academic achievement. Hayden notes that both parents and teachers have the best interest of the child at heart, namely that the child be happy and successful. Unfortunately, as she remarks, the child's success is measured primarily by the yardstick of other children's successes and by the demands set out by the curriculum, rather than by "the child's own developmental growth" (233). This lack of consideration for each individual's needs and level of cognitive growth in the French immersion program is also very much deplored by Bruck throughout her various publications. The study by Hayden is indeed an in-depth support for the findings and recommendations as published by Bruck.

d) Jim Cummins:

Right from the beginning Jim Cummins (1979, 1984) has been a staunch supporter for Bruck's work. Her results have lent empirical credence to Cummins' proposed "common underlying proficiency" (1984:143) hypothesis which tenders the notion that skills transfer across languages thereby making first and second language skills interdependent. True to this hypothesis and as borne out by Bruck's research findings, children who have academic problems in French immersion due to underlying cognitive deficiencies show the same difficulty in the English program. It has been Bruck's contention right along that children will exhibit the same difficulties they are experiencing in French immersion when transferred

to the English stream. Only through remediation that tackles the underlying cognitive deficiency can the child's problems be resolved.

e) Fred Genesee:

Fred Genesee (1987) has also been a strong proponent of Bruck's work. In his book Learning Through Two Languages, he discusses the Trites-Bruck controversy in detail obviously siding with Bruck. He himself empirically studied the importance of intelligence when attending early French immersion programs. Like Bruck, he found that the below-average students in French immersion performed no differently from below-average students in the English stream. Genesee feels that if Trites' screening procedures were to be applied vigorously "many children who might ... benefit from immersion could be falsely excluded from participating in it" (1983:29).

In summary, Bruck's recommendations concerning learning impaired students are echoed by the above-mentioned researchers. Morrison, Pawly and Bonyun cite poor academic achievement as the main reason for students opting out of immersion. Bonyun, Morrison and Unitt reiterate the lack of remedial help for students not succeeding in immersion, as well as the students' poor attitude to school in general. Cummins states that transferring students to the English stream is not addressing the underlying deficiency, namely that students need remediation in the area of their weakness. Genesee demonstrates his support for Bruck by pointing to his own research which found that below-

average students in immersion performed no differently from similar students in the English stream.

Conclusion:

In this chapter Bruck's two large studies are examined in detail and her ensuing recommendations highlighted. The work of researchers which support her findings are also presented.

In her first study, Bruck uncovered unequivocal support for the notion that children with learning disabilities fare no worse in immersion than do children with similar problems in the English stream.

Her second study found that negative attitudes and poor school behaviour characterized those students most likely to transfer out of the immersion program, and that these negative characteristics persisted even in the more accommodating mother tongue programs.

Many researchers were able to arrive at similar conclusions, thereby upholding Bruck's recommendations. Her call for encouraging low-achieving students to continue in French immersion programs with proper remedial help is solidly supported by many of her peers.

CHAPTER 3

In chapters one and two, both Trites' and Bruck's studies have been laid out in detail and their uncompromising differences highlighted. In this final chapter Wiss' case study will show how the Trites-Bruck controversy can be resolved.

3.1 Wiss in support of both Trites and Bruck:

In 1989, Wiss published an article in the Canadian Modern Language Review siding unequivocally with Trites and yet as she starts out, she promotes Bruck's point of view by saying: "Of the group of children who experience difficulty in French immersion... many would experience academic difficulties in the regular unilingual program as well." (517) These children have specific learning difficulties in spite of which they are able to develop adequate oral skills but experience problems in the academic areas of reading and spelling.

Wiss feels that when examining the entire group of learning disabled children, there are some that may not be classified as learning disabled per se, but nevertheless they experience difficulty in French immersion. She is of the opinion that this particular subgroup of children may be called developmentally immature, in that their cognitive and linguistic skills are not developed to a level required in a French immersion academic

setting. Children with specific learning disabilities should receive remediation in French immersion, as they would demonstrate similar learning problems in the regular English program and would therefore also require remedial support. This is the exact argument as proposed by Bruck. Continuing Bruck's line of thinking, Wiss states that early French immersion may be the only opportunity for learning disabled children to acquire biliteracy skills. It was Bruck who noted through her clinical experience with learning impaired children that they graduate from high school with no functional knowledge of the second language they learned in the core French program. Bruck proposes that French immersion is the only viable means for these children to learn to speak a second language. This stance is echoed in Wiss' article.

However, Wiss continues to demonstrate in her article, by means of a case study, the existence of a child belonging to a sub-group of children who do not benefit from the French immersion experience, just as Trites concluded. In this case study, the French immersion teacher recommended that six-year-old Stacey should repeat grade one because of poor academic performance. In spite of progressing normally in French immersion kindergarten, Stacey did not learn to read and to spell at the rate of her peers. Based on extensive individual testing, Wiss concluded that Stacey was held back by an immaturity in certain aspects of cognitive areas. Wiss supports this conclusion with test result findings:

- 1) Stacey's low performance in the area of quantitative reasoning which is thought to demonstrate a child's cognitive development;

- 2) poor elaborate sentence comprehension, indicating the understanding of subtler units of meaning to be well below age level;
- 3) a low score on the Goodenough-Harris Drawing Test which tends to show the cognitive maturation of the subject.

Here was Stacey with average oral skills in English, with French skills well below average, who functioned at a pre-primer level in reading and spelling in both languages, and who confused the two languages. In Wiss' estimation, Stacey did not suffer from any specific learning disabilities but, because of her very young age, she was not developmentally ready to tackle the academically demanding curriculum of a French immersion class (Olson and Burns, 1983; Guttman, 1983).

Stacey switched immediately after the initial testing and was re-evaluated four months later by Wiss. Her improvement was immediate and marked. In all areas tested Stacey achieved grade placement. The school no longer felt that she should repeat a year. What progress in a few short months!

In summary, the hypothesized sub-group of children that Wiss discusses above can be described as cognitively and linguistically immature. This characteristic sets these children at a disadvantage for coping with a linguistically and academically demanding curriculum usually found in French immersion.

Conclusion:

Wiss chides Trites' studies for their methodological weakness and for designating across the board all children as learning-disabled. However, she strongly supports his notion of a maturational lag, as demonstrated by her case study, Stacey. This lag makes some children poor candidates for early French immersion. As for Trites' battery of neuropsychological tests with the intention of screening children, in order to insure only successful candidates be admitted into French immersion, she finds them lengthy, costly and useless for school personnel. She argues that it is necessary to redefine Trites' interpretations to mean a maturational lag in general that would include cognitive and linguistic variables. To her, developmental immaturity suggests that this lag will be overcome with time, as also confirmed by Trites and, because of the linguistic immaturity involved, children will function well in a less stressful regular English class. In contrast, the specific learning difficulties referred to in Bruck's studies suggest that underlying deficits in basic cognitive processing will affect a child's functioning in both French immersion and English programs, requiring remediation in the language used in the classroom, be it French or English. Removing the child from French immersion will not alleviate his/her academic problems. To the contrary, such children are not able to learn a second language in the daily 30-50 minutes taught in the conventional core French program. Wiss concludes with the statement that "it is highly unlikely that there exist children who cannot learn a second language: the crucial factors are the environment and the method of instruction". (Wiss 1989:528)

CONCLUSION

Once French immersion programs became universally available in Canada, educators observed that not all youngsters flourished in an all-French environment; some, in fact, were encouraged to leave the program. Researchers started to investigate whether early French immersion really was meant for all young children entering the school systems. Ronald Trites in Ottawa searched to discover if those children failing in French immersion demonstrated some common observable factor which would make them prone to failure in a second language learning environment. By analyzing the results of an extensive neuropsychological test battery, Trites became convinced that all low achievers in the French immersion programs, who were however intellectually bright, suffered from a maturational lag in the temporal lobes, a lag they would outgrow by the age of nine or ten. He vigorously lobbied to have these children removed from early French immersion, with the option of re-entering it at a later date, having by then out-grown this lag.

Margaret Bruck in Montreal, also interested in unravelling the same mystery but from a different perspective (from that of Trites), set out to empirically establish if the above-mentioned low-achieving youngsters would be better off in the traditional English stream, by comparing test results obtained consecutively between kindergarten to grade three of both low achievers in the English stream and the French immersion programs. The results indicated that there was no differential achievement of both groups. She, therefore, strongly

advocated leaving these children in the French immersion program, but supporting their struggle to learn with appropriate French remediation programs.

This is where the standoff stands today; on the one hand, Trites advocating the removal of these low-achieving or even failing children from what he feels are damaging programs for them; on the other hand, Bruck assuring everyone that the best place for this group of youngsters is right there in French immersion, as they would otherwise never learn to speak the second language.

However, as discussed in the introduction, parents are very cognizant of the importance of bilingualism in the Canadian employment context. Middle and upper class parents want to make informed decisions concerning their child's future. They would welcome a resolution of this conflict.

It is through the work of Corrinne Wiss that these opposing poles are brought together. She fully supports Bruck's finding that children with learning disabilities would fare no better in an all-English program. However, she upholds Trites' recommendation of removing those children belonging to a sub-group of low achievers in French immersion who have no apparent learning disability and who, when switched to a traditional English program, catch up and progress satisfactorily at grade level. She calls on researchers to uncover means for identifying such a sub-group of children in order for them not to suffer needlessly.

Although Wiss succeeded in uniting Trites' and Brucks' divergent proposals, she does not attack the underlying problem in the French immersion program, namely that it caters to an elite school population. She affirms and seems to unquestioningly accept the status quo that young, developmentally immature students tend to fail in academically demanding French immersion programs. However, Bruck and two of her advocates, Cummins and Hayden, aim their criticism at the heart of this phenomenon calling for change in French immersion pedagogy. Both researchers want to see students of varied academic ability participate and succeed in French immersion classes. According to them, French immersion curriculum must become more flexible, accommodating students of differing caliber.

This monograph has attempted to examine the question of suitability of learning disabilities by examining most of the available literature on this topic. The first chapter detailed Trites' studies related to this theme and discussed his interpretations of the results. The same chapter also chronicles those who staunchly oppose his view: H. H. Stern, Jimm Cummins and Fred Genesee. Chapter two explains Bruck's experiments with regard to children with language/learning disabilities in the French immersion programs. With unrelenting energy she imprints on her readers the importance of leaving children with such disabilities in the French immersion stream asserting that a contrary move would put these children at a socio-economic disadvantage within the Canadian context. Finally, chapter three portrays Wiss' uncanniness in recognizing the validity of both schools of thought, amalgamating them into a workable entity to the benefit of the children affected.

There is, then, a vast area for future research which must aim its efforts at differentiating between sub-groups of children experiencing learning difficulties in French immersion so that they may fully benefit from their schooling experience without any unnecessary suffering or discouragement. I hope this monograph has shed some more light on this difficult topic and will be of service to those making decisions regarding low-achieving or failing youngsters in early French immersion.

BIBLIOGRAPHY

Alexander, D., S. Hallows and M. Tiltens (1974). An investigation of factors which may have contributed to children dropping out of French immersion at Roslyn School.

Under the direction of Richard Tucker, Department of Psychology, McGill University, for the Roslyn School Committee and for Sir George Williams.

Bartley, D. E. (1970). The importance of the attitude factor in language drop out. A preliminary investigation of group and sex differences. Foreign Language Annals, 3, pp. 383 - 393.

Bonyun, R., F. Morrison and J. Unitt, (1986). When primary pupils transfer out of French immersion. Research Report 86-06, Ottawa Research Centre.

Bonyun, R., F. Morrison and J. Unitt (1987). Transfers from immersion summary of a OERC conference paper. Reporting Class Research, 16:2, pp. 3 - 4.

Bruck, M., M. S. Rabinovitch and M. Oates (1975). The Effects of French Immersion Programs on Children With Language Disabilities - A Preliminary Report. Working Papers on Bilingualism, 5, pp. 47 - 84.

Bruck, M. (1978). The Suitability of Early French Immersion Programs for the Language-Disabled Child. Canadian Journal of Education, 3: pp. 51 - 72.

Bruck, M. (1978 - 79). Switching out of French Immersion. Interchange, 9:4, pp. 86 - 94.

Bruck, M. (1979). Problems in Early French Immersion Programs in (ed.) B. Mlacak and E. Isabelle, So You Want Your Child to Learn French, Canadian Parents for French, Ottawa, pp. 42 - 47.

Bruck, M. (1980). Longitudinal evaluation of the suitability of French immersion programs for the language disabled child: Progress from kindergarten through grade 1. Montreal: McGill - Montreal Children's Hospital Learning Centre (mimeo).

Bruck, M. (1980). The consequences of switching out of French immersion: A pilot study. Report submitted to the Quebec Ministry of Education.

Bruck, M. (1981). The suitability of the French immersion program for the language disabled child. A longitudinal study through the end of grade 1. Unpublished manuscript.

Bruck, M. (1982). Language impaired children's performance in an additive bilingual education program. Applied Psycholinguistics, 3, pp. 45 - 60.

- Bruck, M. (1984). Feasibility of an Additive Bilingual Program for the Language-Impaired Child in (EDS) M. Paradis and Y. Lebrun, Early Bilingualism and Child Development in Neurolinguistics, 13, pp. 95 - 133.
- Bruck, M. (1985). Consequences of Transfer Out of Early French Immersion Programs. Applied Psycholinguistics, 6, pp. 101 - 120.
- Bruck, M. (1985). Precursors and Consequences of Early French Immersion Transfer. Les Nouvelles de L'ACPI/CAIT News, 8:1, pp. 7 - 8.
- Bruck, M. (1985). Predictors of Transfer Out of Early French Immersion Programs. Applied Psycholinguistics, 6, pp. 39 - 61.
- Bruck, M. and M. Swain (1976). Research Conference on Immersion Education for the Majority Child: Introduction. Canadian Modern Language Review, 32, pp. 490 - 493.
- Burns, E. G. and P. Olson (1981). Implementation and policies in French immersion. Toronto: Ontario Institute for Studies in Education.
- Calvé, P. (1988). Immersion: How high will the balloon fly? Réflexions sur une aventure pédagogique in (Ed.) P. Calvé, Aspects of/de l'immersion. O.E.R.C./C.O.R.P.

Carey, S. (1984). Reflections on a Decade of French Immersion. The Canadian Modern Language Review, 42:2, pp. 246 - 259.

Cazabon, B. and J. Size-Cazabon (1987). Who can succeed in learning French? Contact, 6:3, pp. 3 - 8.

Child, N. F. (1987). A comparison of the English language and reading achievement of French immersion students with transfer and English stream students (grades 3 - 6). University Regina, thesis (M. Ed.), 68 p.

Cummins, J. (1978 a). Learning difficulties and early French immersion: A critique of Trites and Price cross validation study. Unpublished M.S., University of Alberta.

Cummins, J. (1979). "Should the Child Who is Experiencing Difficulties in Early Immersion be Switched to the Regular English Program? A Reinterpretation of the Trites' Data." The Canadian Modern Language Review, 36, pp. 139 - 143.

Cummins, J. (1980 b). The entry and exit fallacy in bilingual education. NABE Journal, 4, pp. 25 - 59.

Cummins, J. (1982). Through the Looking Glass: What Really Happens in an Immersion Classroom, Interchange 13:2, pp. 40 - 44.

Cummins, J. (1983). Language Proficiency, Biliteracy and French Immersion. Canadian Journal of Education, 8:2, pp. 117 - 138.

Cummins, J. (1984). Learning Difficulties in "Immersion" Programmes, in (ED.) J. Cummins, Bilingualism and Assessment and Pedagogy, College-Hill Press, San Diego, California, pp. 152 - 180.

Edwards, H. P. and M. C. Casserly (1973). Evaluation of second language programs in the English schools. Annual report, Ottawa Roman Catholic Separate School Board.

Fletcher, A. (1976). An enquiry into the educational experience of children who discontinue participation in an elementary French immersion program. Unpublished M.A. thesis, Montreal: Concordia University.

Genesee, F. (1976). The suitability of Immersion Programs for all Children. The Canadian Modern Language Review, 32, pp. 494 - 515.

Genesee, F. (1978). Survey of Students switching out of the early immersion program 1977 - 1978. Montreal: The Protestant School Board of Greater Montreal, Instructional Services Department, (mimeo).

- Genesee, F. (1983). Bilingual education of majority-language children: The immersion experiment in review. Applied Psycholinguistics, 4, pp. 1 - 46.
- Genesee, F. (1987). The suitability of Immersion for All Students, in (Ed.) F. Genesee, Learning Through Two Languages, Cambridge: Newbury House, pp. 78 - 99.
- Guttman, M. A. J. (1983). Response to Olson and Burns. There's More to French Immersion than Social Class. Interchange, 14:1, pp. 17 - 22.
- Halpern, G., C. Martin and D. M. Kirby (1976). Attrition Rates in Alternative Primary School Programs. Canadian Modern Language Review, 32, pp. 516 - 523.
- Halpern, H. (1989). English reading problems in French immersion: a report on six children. McGill Journal of Education, 24:1, pp. 81 - 91.
- Hayden, R., H. M. (1988). French immersion Drop-Outs: Perspectives of Parents, Students, and Teachers. Reading Canada - Lecture, 6:4, pp. 222 - 235.
- Kamin, J. (1980). Difficulties in early French immersion: A transfer study. Toronto: Ontario Institute for Studies in Education, (mimeo).

Kondziela, A. (1988). "Is Immersion for Everyone?" Les Nouvelles de L'ACPI/CAIT News, 11, pp. 7 - 8.

Lapkin, S. (1984). Further perspectives on administrative and pedagogical aspects of French immersion education. Contact, 3, pp. 4 - 10.

Martin, C. (1975). 1971 Kindergarten Cohort Student Flow Survey. French Working Paper, No. 30, Research Centre, Ottawa Board of Education.

McCaig, S. (et al) (1988). Second language learning and the identification of "at risk" students. Read Man, 8:3, pp. 10 - 21.

McDougall, A. and M. Bruck (1976). English reading within the French immersion program: A comparison of the effects of the introduction of reading at different grade levels. Language Learning, 26, pp. 37 - 43.

Moeller, P. (1988). No, Sarah, Early Immersion is not for you, Venture Forth, 19:3, pp. 11 - 16.

Morrison, F. (1989). Transferring from French immersion to the English program (Ottawa Board Research). Contact, 8:2, pp. 3 - 5.

Morrison, F., C. Pawly and R. Bonyun (1979). An examination of two cohorts of students who have transferred from primary-entry immersion programs in Ottawa and Carleton. French Working Paper No. 128, Research Centre of the Ottawa Board of Education.

Olson, P. and G. Burns (1983). Politics, class and happenstance: French immersion in a Canadian context. Interchange, 14, pp. 1 - 16.

Parkin, M. (1988) The Impact of Remedial Services in Early French Immersion Schools: First Interim Evaluation Report, Research Paper 88-09, Research Centre, The Ottawa Board of Education.

Roach-Pilon, C. (1986). C'est un excellent programme, mais est-ce pour cet enfant? Les Nouvelles de L'ACPI/CAIT News, 10: pp. 20 - 22.

Stern, H. H., M. Swain, L. D. McLean, R. J. Friedman, B. Harley and S. Lapkin (1976). Three Approaches to Teaching French. Ministry of Education, Toronto, Ontario.

- Swain, M. and S. Lapkin (1981). Bilingual Education in Ontario: A decade of research. Toronto: Ministry of Education, Ontario.
- Trites, R. L. (1976). Children with Learning Difficulties in Primary French Immersion, Canadian Modern Language Review, 33, pp. 193 - 207.
- Trites, R. L. (1976). Difficulties in early French immersion in (ED.) E. Isabelle, What's What for Children Learning French, Ottawa: Mutual Press, pp. 29 - 32.
- Trites, R. L. (1978). Evaluation of French Instruction: Cognitive effects and learning disabilities. Paper presented at conference on French language instruction. Toronto: Ontario Institute for Studies in Education.
- Trites, R. (1978). Learning Disabilities in Immersion. The Canadian Modern Language Review, 34: pp. 888 - 889.
- Trites, R. L. (1978-79). Specific Learning Disabilities in Primary French Immersion, Interchange, 9:4, pp. 73 - 85.
- Trites, R. L. (1979). A Reply to Cummins. The Canadian Modern Language Review, 36, pp. 143 - 146.

- Trites, R. (1981). Primary French Immersion: Disabilities and Prediction of Success. Review and Evaluation Bulletins, 2:5, Toronto: Ministry of Education, Ontario, 75 p.
- Trites, R. L. (1984). Early Immersion in French at School for Anglophone children: Learning Disabilities and Prediction of Success. In (ED) M. Paradis and Y. Lebrun, Early Bilingualism and Child Development in Neurolinguistics, 13, pp. 95 - 133.
- Trites, R. L. (1985). Learning Disabilities and Prediction of Success in Primary French Immersion. Les Nouvelles de L'APCI/CAIT News, 9: pp. 9 + 25.
- Trites, R. L. (1986). Learning Disabilities and Prediction of Success in Primary French Immersion: An overview. Toronto: Ministry of Education, Ontario.
- Trites, R. L. and P. Moretti (1986). Assessment of readiness for primary French immersion: grades four and five follow-up assessment. Toronto: Ontario Ministry of Education.
- Trites, R. L. and M. A. Price (1975). Learning Disabilities Found in Association with French Immersion Programs. Ottawa: University of Ottawa Press.
- Trites, R. L. and M. A. Price (1976) Learning Disabilities Found in Association with French Immersion Programming. Toronto: Ministry of Education, Ontario.

Trites, R. L. and M. A. Price (1977). Learning Disabilities Found in Association with French Immersion Programming: A Cross Validation. Toronto: Ministry of Education, Ontario.

Trites, R. and M. Price (1978). Assessment of Readiness for Primary French Immersion. Toronto: Ontario, Ministry of Education.

Trites, R. L. and M. A. Price (1980). Assessment of Readiness for Primary French Immersion: Grade One Follow-Up Assessment. Toronto: Ministry of Education, Ontario.

Weininger, O. (1982). Learning a Second Language: The Immersion Experience and the Whole Child. Interchange, 13:2, pp. 20 - 40.

Wiss, C. A. (1987). Issues in the Assessment of Learning Problems in Children from French Immersion Programs: A Case Study Illustration of Support of Cummins. The Canadian Modern Language Review, 43, pp. 302 - 313.

Wiss, C. (1988 b). Crosslinguistic comparisons of reading disorders in bilingual French Immersion children. Paper presented at the 33rd annual convention of the International Reading Association, Toronto: Ontario.

Wiss, C. (1989). Early French Immersion Programs May Not Be Suitable For Every Child. The Canadian Modern Language Review, 45, pp. 517 - 529.

Wiss, C. (in press). Crosslinguistic Comparisons of Learning Disabilities in French Immersion Poor Readers. Canadian Journal of Special Education.

Wiss, C. and W. Burnett (1988). The Application of the Boder Test of Reading - Spelling Patterns to the Assessment of Learning Disabilities in French Immersion Poor Readers. Canadian Journal of School Psychology, 4, pp. 61 - 69.