THE EFFECTS OF EARLY-GRADE IMMERSION IN FRENCH ON THE DEVELOPMENT OF ENGLISH LANGUAGE RECEPTIVE SKILLS AND READING READINESS

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THE EFFECTS OF EARLY-GRADE IMMERSION IN FRENCH ON THE DEVELOPMENT OF ENGLISH LANGUAGE RECEPTIVE SKILLS AND READING READINESS: AN EVALUATION OF THE KINDERGARTEN YEAR IN THE PORT AU PORT IMMERSION PROJECT, 1975-76

by

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AN INTERNSHIP REPORT

SUBMITTED TO

MEMORIAL UNIVERSITY OF NEWFOUNDLAND

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

MASTER OF EDUCATION

DEPARTMENT OF CURRICULUM AND INSTRUCTION

ST. JOHN'S, NEWFOUNDLAND

MARCH 25, 1977

ABSTRACT

Purpose of the Study

In September 1975, early-grade immersion made its debut in Newfoundland with the establishment of an immersion French Kindergarten at Cape St. George, Port au Port District. The purpose of this study was to determine to what extent their being taught in French during the Kindergarten year would affect the students' development of English language receptive skills and reading readiness. Relationships were also sought between reading readiness and the variables of IQ, sex, occupation of parents, and language spoken in the home.

Procedure

The sample for the study consisted of 55 Kindergarten students (the total Kindergarten population of Our Lady of the Cape Primary School). The students were assigned to two Kindergarten groups, 28 students in the Immersion French group and 27 students in the Regular English group. The groups were similar in terms of background. Both groups had similar instructional goals for the Kindergarten program. The Immersion French group was taught in French by a native French teacher and the Regular English group was taught in English by a native English-speaking teacher. With regard to instructional materials, the groups were similarly equipped.

The instruments used in evaluating the students' English language development and reading readiness were the Gates MacGinitie Readiness Skills Test, the Peabody Picture Vocabulary Test, and the Assessment of Children's Language Comprehension. In May 1976, all students in the sample were given this battery of tests. An IQ measure was taken from scores obtained on the Ravens Progressive Matrices which had been administered earlier in the school term. All testing was done in English by native speakers of English. Data obtained from the tests was analysed using a t-test with significance set at 0.25. Data pertaining to the relationship between reading readiness and the variables of IQ, sex, occupation of parents, and language spoken in the home was examined using an analysis of variance with level of significance set at .05.

Conclusions

1. With regard to reading readiness as measured by the Gates MacGinitie Readiness Skills Test, the children in the Immersion French group performed similarly to their peers in the Regular English group.
2. With regard to receptive vocabulary development as measured by the Peabody Picture Vocabulary Test, the children in the Immersion French group performed similarly to their peers in the Regular English group.
3. With regard to English language comprehension as

measured by the Assessment of Children's Language Comprehension, children in the Immersion French group performed similarly to their peers in the Regular English group.

4. With regard to the relationship between IQ and reading readiness, a correlation was found to exist between the IQ level of the student and his/her level of reading readiness.

5. With regard to the relationship between occupation of parents and reading readiness level of the student, there was a significant relationship for the student representing the professional category, but no such relationship for the other occupations selected.

6. With regard to the relationship between sex of the student and his/her reading readiness level, girls were superior to boys in terms of mean scores obtained on the Gates MacGinitie Readiness Skills Test. Boys in the Immersion French group performed better than the boys in the Regular English group.

7. With regard to the relationship between language spoken in the home and the reading readiness level of the student, it was found that children who came from homes where French was spoken scored lower than those who came from homes where no French was spoken. In the Immersion French group, children who came from homes where French was spoken scored considerably lower.

ACKNOWLEDGEMENTS

The investigator wishes to express his appreciation to the many people who have contributed to the successful completion of the present study.

He is especially grateful to Mr. Peter Heffernan, Board French Consultant, and the Principal and teachers of Our Lady of the Cape Primary School for their kind co-operation and valuable assistance.

The investigator also wishes to thank his Supervisor, Mrs. J. Netten, for her guidance and assistance in giving direction throughout the study.

Finally, he wishes to express his sincere appreciation to his wife, Mary, for her encouragement during the study.

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CHAPTER I

THE PROBLEM

I. INTRODUCTION

There is at present a strong movement towards bi-lingual education in all provinces of Canada. Although much has already been done to revise the teaching of French in our schools via the audio-lingual approach and the downward extension of French study into the elementary and primary grades, it is generally felt that present programs are not designed to produce the level of bilingualism that is coming to be demanded in Canadian society. Canada is by no means unique in its move to bilingual education.

> There are more bilingual than monolingual individuals in the world; and there are more individuals in the world today who attend school via a second or later-acquired language than who study via their mother tongue . . . In many parts of the world becoming bilingual is not viewed as a problem, but rather as a necessity of life.[1]

Throughout Canada, many innovative approaches to second-language teaching are presently being tried. These approaches may be summarized as follows:

> These diverse approaches seem to fall into four major categories: 1) the "traditional" second-language program intended to develop, on the part of the student, an ability to understand, speak, read and write the target language (a term used to refer to the language being taught) to some specified level; 2) a program in which the

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[1] G. Richard Tucker, "Methods of Second-Language Teaching", The Canadian Modern Language Review, XXXI (November 1974), p. 102.

traditional SL component is complemented by the use of the target language to teach a selected content subject (e.g., geography might be taught in French at the Grade Six level to English-speaking youngsters); 3) a program of immersion in the target language at the early grade levels followed by the gradual introduction and increasing use of the mother tongue during the later primary grades; and 4) a program of immersion in the target language beginning after the student has had several years of training via the traditional SL program.[2]

Most of the French immersion programs in Canada today have been established with a view to the gradual introduction of the mother tongue until a truly bilingual situation is established.

> English-speaking pupils receive their schooling completely in French throughout Kindergarten and Grade One. Beginning in Grade Two, English Language arts are taught for approximately an hour a day. With each successive grade, the proportion of time taught in English is increased so that by the end of elementary schooling approximately half the curriculum is taught in English and half in French.[3]

The acquisition of French is becoming, for a great many Canadians, a matter or urgency. Also, there are small groups of French Canadians in various parts of Canada who have all but lost their language and culture. Such groups are concerned with the revival and preservation of their language and cultural identity, and are seeking government support to initiate and expand programs of French education for their children.

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[2]Ibid., p. 103.

[3]Henri C. Barik and Merrill Swain, "Primary-Grade French Immersion in a Unilingual English-Canadian Setting: The Toronto Study through Grade 2", Canadian Journal of Education I, No. 1 (1976), p. 40.

This awakening of interest in the acquisition of French, combined with theories supporting the impressive ability for language development in early childhood, have led to the establishment of early-grade immersion programs throughout the country. It is widely held that the best way to achieve bilingual-bicultural education is to take advantage of the great learning potential of young children. Dr. Wilder Penfield[4] writes regarding the human brain's capacity for learning languages more readily at an early age. In his view, acquisition of a second language can take place more easily before the age of ten, the period in which the brain has the greatest plasticity and specialized capacity for acquiring speech. For purposes of learning languages, the human brain becomes progressively stiff and rigid after the age of nine.

Maria Montessori discovered that, during early childhood, the mind is in a phase of activity regarding everything that has to do with words. She states that "the sensitive period for language learning has begun to fade by the time the child traditionally begins first grade; we have not yet grasped the full pedagogical significance of this fact, and often continue to postpone the teaching of a second language".[5]

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[4]Wilder Penfield, "The Learning of Languages", in Joseph Michel (ed.) Foreign Language Teaching (New York: The MacMillian Company, 1967), pp. 192-199.

[5]R.C. Orem (ed.), Montessori: Her Method and the Movement (New York: Capricorn Books, 1974), p. 117.

Theodore Andersson[6] supports this statement by maintaining that young pre-school children have an impressive learning capacity, especially for learning a language or languages. There is indication that they learn more easily than adults or adolescents the sound systems, basic structure and vocabulary of a language. "There is wide agreement that early immersion programs, usually starting in Kindergarten or Grade One, result in a higher level of bilingualism than traditional approaches to a second-language instruction."[7]

Encouraged by these findings, combined with the great success of immersion programs to date[8], early-grade immersion programs have mushroomed, and, as of September 1974, such programs existed in nine of Canada's ten provinces. In September 1975, early-grade immersion made its debut in the province of Newfoundland. Such a program has been established at Our Lady of the Cape Primary School in Cape St. George. The aim of this program is to teach French to children, using French as the main language of instruction during the primary school years. In September 1975, one half of the Kindergarten students of Cape St. George entered the French immersion program while the remaining half entered the regular English Kindergarten.

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[6]Theodore Andersson, Bilingual Education and Early Childhood (University of Texas, 1973), Eric ED 074 868.

[7]H.P. Edwards and F. Smyth, "Alternatives to Early Immersion Programs for the Acquisition of French as a Second Language", The Canadian Modern Language Review, XXXII (May, 1976), p. 524.

[8]Chapter II of this report contains detailed discussion of many of the current programs of early-grade immersion.

II. PURPOSE AND IMPORTANCE OF THE STUDY

With the growth of early-grade immersion programs in this country, much research has been done and many programs have been evaluated. One of the major concerns of both educators and parents about early-grade immersion French programs is the fear that instruction through the medium of French may have harmful effects upon the development of English language skills and general reading readiness. Since a child's academic progress is measured mainly in terms of reading achievement, a weak basis in pre-reading can have far reaching effects.

Educators are becoming increasingly aware of the importance of the early years in the educational process. "They stress the importance of giving children a good start so that each child may be prepared to make the best possible use of his educational opportunities."[9] The Kindergarten experience seems vital to the educational process for it is "the really critical time for acquiring language skills because of the innate flexibility of brain functions and the individual sensitivity to stimuli during this period."[10] Care must be taken not to deprive the child of a good start.

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[9] C.A. Chandler, "The Importance of the Early Years" Childhood Education, XXIX (September 1962), pp. 3-5.

[10] Dorothy Higginbotham, "Psycholinguistic Research and Language Learning", Elementary English, XLIX (October, 1972), p. 811.

The issue of readiness remains a very controversial one. There is a feeling that many children entering school each year lack the maturity and background necessary to cope with the demands made on them during their first years of formal instruction in the native language. There is fear that early-grade immersion might only serve to further complicate this issue by making additional demands. Research by the Gessell Institute of Child Development revealed that "from 9 to 13 percent of children in Kindergarten, First and Second Grades were completely unready for their grades, and that 40 percent more were questionably ready."[11]

In spite of the great success of early-grade immersion programs to date, there is still some concern as to the advisability of immersion in French before a child has acquired the basic skills of reading and writing in English. There is also concern as to the suitability of immersion programs for all children since there is a lack of empirical knowledge about the suitability of French immersion for disadvantaged children.[12]

The first evaluation of an early-grade immersion program in Canada was undertaken in 1965 by Dr. W.E. Lambert

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[11] J.W. Baldwin, "A Good Start in School - A Child's Right", The Elementary School Journal, LXVIII (May 1968), p. 388.

[12] See R.L. Trites and M.A. Price, Learning Disabilities Found in Association with French Immersion Programming (Ottawa: Ministry of Education, Ontario, 1976).

and his colleagues.[13] Their evaluation centred around the following concerns of parents, educators and researchers:

> They were concerned that:
> 1. there be no retardation of the immersion child's development of native language skills,
> 2. there be no negative effects on cognitive functioning and intellectual development,
> 3. learning of content material be comparable to that of the children in English programs,
> 4. the children become proficient in French, and
> 5. the children retain a sense of personal identity and self-esteem while learning to respect the target-language group.[14]

These same concerns have been voiced by the parents and teachers involved in the Cape St. George Immersion Project, and are presently being investigated by this and other related studies. This report is concerned with the effect of early-grade immersion on the child's development of English language skills and reading readiness.

In addition to the socialization process of the first year at school, the modern Kindergarten is a bee-hive of activity providing educational experiences which foster the development of a multitude of skills: language skills, conceptual skills, perceptual skills, and motor skills, all of which combine and interact to enable the child to be ready to cope with the demands of learning in subsequent years.

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[13] W.E. Lambert and G.R. Tucker, Bilingual Education of Children: The St. Lambert Experiment (Rowley, Mass: Newbury House Publishers, 1972).

[14] Maggie Bruck and Merrill Swain, "Research Conference on Immersion Education for the Majority Child: Introduction", The Canadian Modern Language Review, XXXII (May 1976), pp. 490-491.

The Kindergarten child brings to school habits that will form his adult speech patterns.

> By the end of their third or fourth year most children have mastered the basic grammatical devices and structural patterns involved in the utterance of their language, and by their fifth or sixth year have sufficiently stabilized the rule system so that they are able to control many of the inconsistencies and complexities of their language. By the time they enter first grade, normal children are producing a near match for the adult grammatical model.[15]

It is the task of the primary school teacher to encourage continued growth of these skills.

Language development can be treated under two interrelated headings: receptive language and expressive language. In discussing receptive language and expressive language, one must consider the various aspects of language: phonology (the sound system), grammar (morphology and syntax), and vocabulary.

Receptive language skills emphasize "comprehension abilities, including listening behavior, following directions, auditory discrimination, attaching meaning to vocabulary as well as attaching meaning to longer verbal units or sequences."[16] Listening skills are necessary for a good foundation in the language arts. Good listeners will often become good readers. This seems logical since both listening and reading are receptive skills. A large auditory vocabulary

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[15]Dorothy Higginbotham, op. cit., p. 811

[16]David L. Lillie, Early Childhood Education (Chicago: Science Research Associates, Inc., 1975), p. 131.

makes acquisition of visual vocabulary easier when a child begins to read. The ability to discriminate between similar sounds is also vital in learning to read, as is recognition of initial, middle, and ending sounds. The primary teacher uses many activities to develop the listening skill. Comprehension is practised by reading stories to the children and then discussing the sequence of events or asking questions on the content. Sound discrimination is developed through listening and identifying common sounds, rhyming, distinguishing similar sounds, and distinguishing morphological changes, just to name a few activities. All of the other language arts require skilled listening. Listening provides the vocabulary, the sentence patterns, and the auditory discrimination that build a foundation for children to speak, read, spell and compose. "Direct association of sound, meaning, and word form must be established from the start."[17]

Expressive language skills involve the ability to express one's thoughts in a meaningful way. This includes "quantity and quality of spoken vocabulary, ease and frequency of expressing thoughts, ability to construct word sequences to express complex thought verbally, and the use of proper syntax."[18] Speaking and writing form the expressive phase of language. The Kindergarten teacher's role is to encourage the child's spontaneous oral language development. Young

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[17] Paul C. Burns et al., The Language Arts in Childhood Education (Chicago: Rand McNally and Company, 1971), p. 85.

[18] David L. Lillie, op. cit., p. 135.

children delight in describing their own experiences. This activity is encouraged and carried still further by providing opportunities for oral expression and guiding students to see differences in the morphology, syntax and phonology of their language. The child already possesses considerable linguistic knowledge when he enters school. The Kindergarten year is a period of refinement of this knowledge. Children tend to overgeneralize the rules of syntax and morphology. While the Kindergarten child does not have command of the complete syntactic system, at this age he has mastered the basic rules of sentence formation. It is the job of the teacher to provide oral and listening activities which involve the student in the correct usage of the language. The child brings to school an aquaintance with a considerable number of lexical items, his listening vocabulary being somewhat larger than his speaking vocabulary. During the Kindergarten year both of these vocabularies are expanded through a variety of new experiences.

Both the receptive (listening) and expressive (speaking) phases of language are emphasized in the Kinder-garten so as to provide a sound basis for later development of reading and writing. This report is largely concerned with the development of reading readiness. "A knowledge of letter forms and names, auditory and visual perception, breadth and depth of experiential background, motor co-ordination, ability to follow directions and listening are all parts of a constellation that relate to readiness for

reading."[19] The formal testing for this report dealt primarily with these pre-reading skills. Evaluation of the expressive phase of language was done through informal observation by the classroom teachers concerned.

The great question that arises in the case of French immersion is how much carry-over there is between French and English in the development of the vital pre-reading skills. Are first and second language acquisition similar processes? Will the child indeed suffer from a lack of experience with the English language during that first and crucial year? Will there be any detrimental effects on his/her English language development and reading readiness as a result of Kindergarten immersion in French?

III. QUESTIONS TO BE ANSWERED

Relative to the above stated problems, the following questions are to be answered:

1. With regard to reading readiness as measured by the Gates MacGinitie Readiness Skills Test, is there a significant difference between the mean scores of students trained by Immersion French and the comparison group of students trained via Regular English?

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[19] C. Michael O'Donnell and Dorothy Raymond, "Developing Reading Readiness in the Kindergarten", Elementary English, XLIX (September 1972), pp. 770-71.

With regard to reading readiness, the following pre-reading skills are to be examined individually:

1.1 Is there any significant difference between the Immersion French and Regular English groups on mean scores obtained on a subtest of listening comprehension?

1.2 Is there any significant difference between the Immersion French and Regular English groups on mean scores obtained on a subtest of auditory discrimination?

1.3 Is there any significant difference between the Immersion French and Regular English groups on mean scores obtained on a subtest of visual discrimination?

1.4 Is there any significant difference between the Immersion French and Regular English groups on mean scores obtained on a subtest of following directions in English?

1.5 Is there any significant difference between the Immersion French and Regular English groups on mean scores obtained on a subtest of letter recognition?

1.6 Is there any significant difference between the Immersion French and Regular English groups on mean scores obtained on a subtest of visual motor coordination?

1.7 Is there any significant difference between the

Immersion French and Regular English groups on a subtest of auditory blending?

1.8 Is there any significant difference between the Immersion French and Regular English groups on a subtest of word recognition in English?

2. With regard to receptive vocabulary development, is there a significant difference between the mean scores obtained by the Immersion French group and those obtained by the Regular English group?

3. With regard to English language comprehension, progressing from simple to more complex elements, is there a significant difference between the mean scores obtained by the Immersion French group and those obtained by the Regular English group?

4. In order to gain further information with regard to reading readiness, the following questions are to be answered:

4.1 Is there a relationship between IQ level and level of reading readiness?

4.2 Is there a relationship between occupational level of the parents and the reading readiness level of the child?

4.3 Is there a relationship between the sex of the student and his/her level of reading readiness?

4.4 Is there a relationship between the language spoken in the home and the reading readiness level of the student?

IV. DEFINITION OF TERMS

For purposes of this study, the comparison group is labeled Regular English. This group was taught the regular Kindergarten basic skills program as set down by the Newfoundland Department of Education. All instruction was given in English by a native English-speaking teacher.

The experimental group is labeled Immersion French. This group was taught, using French as the language of instruction, by a native French-speaking teacher. The teacher spoke only French to the children, although the children continued to use English in their spontaneous speech. The teacher, however, did encourage the children to use more and more French as the year went on. The Immersion French group used a program comparable to that of the Regular French group, except that all instruction was given in French.

Reading-readiness is defined in terms of total scores obtained on the Gates MacGinitie Readiness Skills Test, as described in the Materials section of this report.

Receptive Vocabulary is defined in terms of scores obtained on the Peabody Picture Vocabulary Test, as described in the Methodology section of this report.

English Language Comprehension is defined in terms of scores obtained on Assessment of Children's Language Comprehension, also described in the Methodology section of this report.

Listening Comprehension, Auditory Discrimination, Visual Discrimination, Following Directions, Letter Recognition, Visual-Motor Coordination, Auditory Blending, and Word Recognition are defined in terms of scores obtained on corresponding subtests of the Gates MacGinitie Readiness Skills Test, as mentioned earlier and fully described in the Methodology section of this report.

Early-Grade French Immersion is defined as the first stage in the process of Bilingual Education, a process which begins with total immersion in French with the gradual introduction of English until a balance is established between English and French as languages of instruction in the upper elementary and secondary grades. For this reason, the terms Bilingual Education and Early-Grade Immersion are used interchangably in this report.

V. ORGANIZATION OF THE REPORT

Chapter One has been concerned with the statement of the problem. Chapter Two takes a comprehensive look at relevant research on early-grade immersion, while Chapter Three deals with the methodology. Chapter Four is concerned with the statistical interpretation of the data. The

summary, conclusion and recommendations are given in Chapter Five.

CHAPTER II

REVIEW OF LITERATURE

I. EARLY-GRADE IMMERSION IN CANADA

Many studies have been completed and published on early-grade French immersion programs in Canada, and, generally, the findings appear to be positive in favor of bilingual education.

One of the first of such programs to be evaluated was begun in 1965 by the South Shore Protestant Regional School Board in St. Lambert, Quebec. This program remains very important, since its success has played a major part in the spread and design of early-grade immersion programs in other parts of Canada. The program was designed "to promote functional bilingualism through a policy of home-school language switch."[1] Lambert and Tucker,[2] in a very comprehensive report on the St. Lambert project, describe the great success of the experiment. They found that Early-grade immersion groups showed no symptoms of retardation or negative transfer. In English tests, the experimental group did as well as the control groups. They had no difficulty in comprehending spoken English, and in oral English skills, they

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[1] Wallace E. Lambert, "A Canadian Experiment in the Development of Bilingual Competence", The Canadian Modern Language Review, XXXI (November 1974), p. 109.

[2] W.E. Lambert and G.R. Tucker, Bilingual Education of Children: The St. Lambert Experiment (Rowley, Mass.: Newbury House Publishers, 1972).

were found to be as competent as the control groups in overall expression. In grade one, with continued immersion, it was found that although their listening and speaking skills did not fall behind those of the control, their ability to read in English did. In grade two, however, with the introduction of English language arts, they quickly caught up to their English counterparts.

Throughout the St. Lambert program the progress of the experimental groups was compared with carefully selected control groups of French children instructed via French and of English children instructed via English. In 1974, after seven years of evaluation, the results were just as encouraging as those of the previous years.

> Thus far, after seven years, we are satisfied that this novel program of second language-learning has not resulted in any native language or subject matter (i.e., arithmetic or science) deficit. Nor does there appear to be any cognitive retardation attributable to participation in this program. In summary, the Experimental pupils appear to be able to read, write, speak, understand, and use English as well as youngsters instructed via English in the conventional manner. In addition and at no cost, they can also read, write, speak and understand French in a way that English pupils who follow a traditional FSL program never do.[3]

Merrill Swain,[4] reporting on early-grade immersion programs in Toronto and Ottawa, further supports the findings of the St. Lambert study. She reports no ill effects of

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[3]Wallace E. Lambert, op. cit., p. 112.

[4]Merrill Swain, "French Immersion Programs Across Canada: Research Findings", The Canadian Modern Language Review, XXXI (November 1974), pp. 117-127.

having the Kindergarten year in French. The Metropolitan Readiness Test was given to pupils completing a French immersion Kindergarten year and to pupils completing a regular Kindergarten program. Comparing the results, it was found that they performed similarly. "The research findings suggest that the French immersion children do not fall behind their English educated counterparts in English listening and speaking skills, that they make rapid gains in English reading comprehension and spelling once formal training in Language Arts is introduced."[5]

Robert J. Sweet[6] describes an adaptation of the St. Lambert Plan to the Toronto context at Allenby Public School. The results were most encouraging, indicating that the immersion treatment is also effective in a non-French-speaking environment.

> The results of the evaluation in Kindergarten and Grades 1 and 2 may be summarized as follows:
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> 1. At the end of the Kindergarten year, pupils in the French immersion program show the same degree of readiness for beginning school work in Grade 1 as pupils who have attended an English Kindergarten. They are not lagging behind their peers in the regular English program in general mental ability, and demonstrate a greater comprehension of spoken French than pupils of higher grade levels (Grades 1 and 3) enrolled in a regular English program who have been receiving instruction in French as a second language for 20 - 40 minutes per day for up to four years.
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> 2. At the end of Grade 1, pupils in the French immersion program are behind their English-speaking

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[5]Ibid., p. 120.

[6]Robert J. Sweet, "The Pilot Immersion Program at Allenby Public School, Toronto", The Canadian Modern Lang-Review, XXXI (November 1974), pp. 161-168.

peers attending the regular English program in English language skills which involve reading. However, their level of achievement suggests that a substantial amount of transfer of reading skills from French to English takes place, even without formal training in English. They have mastered as much mathematical knowledge via French as pupils attending the regular English program have via English, and can employ this knowledge in French and English. They show no evidence of decrease in general mental ability and cognitive development relative to their peers in the regular English program, and although not on a par with native French-speaking peers in the terms of French achievement, demonstrate a level of proficiency in French far superior to that of pupils in Grade 1 - 3 of a regular English program who have been receiving 20 - 40 minutes a day of instruction in French as a second language since Kindergarten.

3. At the end of Grade 2, pupils in the French immersion program, after the introduction of formal instruction in English language arts . . . perform as well as Grade 2 children attending the regular English program on most aspects of the English language skills tested, in respect to English spelling and, to a lesser extent, word analysis. They continue to show that they are learning as much mathematics via French as their peers instructed in English . . . and show the same level of mental ability as pupils in the regular English program.[7]

Edwards and Casserly[8], reporting on French immersion in Ottawa, found that the children in French immersion did as well as the children in the English program in all areas, with the exception of a lag in English language skills in grade two which was overcome in grade three after the introduction of formal instruction in English language arts.

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[7]Henri C. Barik and Merrill Swain, "Primary-Grade French Immersion in a Unilingual English-Canadian Setting: The Toronto Study through Grade 2", Canadian Journal of Education, I, No. 1 (1976), pp. 56-57.

[8]H.P. Edwards and M.C. Casserly, Evaluation of Second Language Programs in the English Schools, Annual Report, 1972-73 (Ottawa: The Ottawa Roman Catholic Separate School Board, 1973).

Similar success was reported from the Coquitlam Experience[9] with early-grade immersion in British Columbia. This program is very relevant to the present Port au Port evaluation in that it concerned immersion education for a minority group. Coquitlam District, like Port au Port, is an area with a very small French Canadian population in a predominantly English-speaking environment. In Coquitlam, as in Port au Port, parents of French descent were very much aware of the importance of the development of English language skills in their children if they were to function in the largely unilingual English environment, yet they also wanted to pass on to these children their French-Canadian heritage. Many of these children were now by definition unilingual English. The program requested by the concerned parents of Coquitlam closely resembled the one envisioned for the Port au Port area. "They asked for a program of which the first three or four years would be entirely conducted in French, with English being introduced in Grades four and five and being gradually increased thereafter . . . some subjects being taught in French and some in English throughout the secondary school."[10]

In evaluating the program, the Metropolitan Readiness Test was given at the end of Kindergarten and the Canadian

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[9]Florence Wilton, "Implications of a Second Language Program: The Coquitlam Experience", The Canadian Modern Lang-Review, XXXI (November 1974), pp. 169-175.

[10]Ibid., p. 170.

Test of Basic Skills at the end of each subsequent year. Thus far, results have compared favorably with those of the control groups. As with the present Port au Port project, it was difficult in Coquitlam to make appropriate comparisons with regard to progress in French because of the lack of French control groups.

> Use of the Peabody Vocabulary Test translated into French gave an indication of how much French the children know on entering the program. Rapid progress is always made in comprehension with a much slower rate of oral production in French. Children in the bilingual program who began reading in French towards the end of Grade Two seem to continue reading at about one to two years behind the anticipated level for francophone children.[11]

Early-grade immersion is becoming an accepted form of second language training in many parts of Canada. "A recent listing by the Bilingual Education Project of the Ontario Institute for Studies in Education included 53 French immersion projects."[12] These projects are now operating in all provinces of Canada. The programs mentioned in this report were chosen as representative of the sort of work that has been going on in Canada. The other existing projects are largely adaptations of these programs.

II. IMMERSION PROJECTS IN THE UNITED STATES

Immersion education in the United States is usually designed to provide bilingual education for children who have

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[11] Ibid., p. 170.

[12] Fred Genesee, "The Suitability of Immersion Programs for All Children", The Canadian Modern Language Review, XXXII May 1976), p. 494.

limited English-speaking ability, while at the same time giving native English speakers the opportunity to become bilingual.

Results of early-grade immersion projects in the United States have been encouraging. A.P. Maffia[13], in an evaluation report of the Bilingual Education Project of the Stockton Unified School District, states that students in the immersion program performed as well as other students when tested on behavioral objectives in English. Lorraine Cox[14], reporting on the Caribou Bilingual Project in Maine, found that participation in early-grade immersion was not delaying any English language skill acquisition.

Alvarez[15], reporting on bilingual education in Texas, found that in Spanish reading achievement, students in the bilingual program scored significantly higher in reading comprehension than those in the monolingual program. No other statistically significant differences were found. It was thus concluded that there was no differential effect on academic achievement or academic attitudes and aspirations of the students in each program. Using Spanish as the medium

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[13] A.P. Maffia, Evaluation Report of the Bilingual Education Project of the Stockton Unified School District. (Stockton, California: Stockton Unified School District, Aug. 1974). Eric ED 101 574.

[14] Lorraine Cox, Caribou Bilingual Project: Final Evaluation Report. (Caribou, Maine: Caribou School Department, July 1974). Eric ED 105 746.

[15] Juan M. Alvarez, "Comparison of Academic Aspirations and Achievement in Bilingual Versus Monolingual Classrooms" Dissertation Abstracts International, XXXVI (August 1975), Xerox.

of instruction did not cause any academic retardation.

Helen Harrison[16], in her evaluation report of the bilingual education program in San Marcos, Texas, found no discernible differences in language achievement by second and third grade students between bilingual and control groups as measured by reading tests in English.

Immersion education appears to be a very effective route to bilingualism. Upon examination of the recent research reports on immersion programs in Canada and the United States, one is left with the impression that they do work. The major question which remains is whether or not such programs will work with all types of children. The next section of this report will examine this still somewhat controversial issue.

III. IMMERSION EDUCATION FOR ALL?

Considering the success of the many studies already mentioned, one can not deny that immersion education is effective. However it has been effective with a particular type of student, "namely, predominantly middle class, majority group youngsters of average or above average intelligence, with no particular problems and who are, therefore, likely to be relatively successful students."[17]

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[16]Helen W. Harrison, Evaluation Report of San Marcos Independent School District's Bilingual Education Program (San Marcos, Texas: San Marcos Independent School District, (1974). Eric ED 081 553.

[17]Fred Genesee, op. cit., p. 495.

In spite of the fact that most programs of immersion education maintain that all pupils have the opportunity of participating in the projects, "work conducted by the Research Centre has shown with regard to local school populations there clearly is selectivity among the children entering immersion. For example, these children tend to come from higher socio-economic status families."[18]

The cultural and social background of the family would appear to have a significant impact on attitudes towards education and hence an impact on the school achievement of the child. Parental attitudes in particular are of great importance in influencing the desire of the child to achieve in school. The level of participation of the parents in the educational process often depends on their educational level and, for this reason, children from higher socio-economic backgrounds seem likely to have a significant advantage over those of lower socio-economic status.

Sexton[19] found achievement and I.Q. test scores to be directly related to family income, low income being associated with low scores. "From the beginning, the gifted child is advanced in linguistic development. He is accelerated in use of and understanding of vocabulary, in maturity of

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[18] G. Halpern, C. Martin and D. Kirby, "Attrition Rates in Alternative Primary School Programs", The Canadian Modern Language Review, XXXII (May 1976), p. 517.

[19] Sexton, Education and Income (New York: Viking Press, 1967).

sentence structure and in originality of expression."[20]

In assessing the vocabulary of Kindergarten pupils, Norman Uhl[21] found consistent class differences. Students from the upper-middle socio-economic level scored significantly higher than those from the low socio-economic level on both receptive and expressive vocabularies.

A similar conclusion was made by Bernstein:

> Bernstein's research with British youth points to middle and lower class language differences. The speech patterns of the middle class children were more varied and clearer because of use of greater sentence patterns. This presents a marked contrast with the lower work-class children who were found to have a comparatively rigid and limited use of the organizational possibilities of sentence construction.[22]

In assessing the effect of early environmental experiences on the learning process, Deutch stated that "the lower class child comes to the school situation so poorly prepared to cope with the demands the school makes upon him, that initial failures are almost inevitable. Thus school experience becomes negatively rather than positively reinforced."[23]

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[20]Paul C. Burns et al., The Language Arts in Childhood Education (Chicago: Rand McNally and Company, 1971), p. 31.

[21]Norman P. Uhl, "Receptive and Expressive Vocabularies of Upper-Middle and Low SEL Children", Elementary English, XLIX (May 1972), p. 729.

[22]Basel Bernstein, "Language and Social Class", British Journal of Sociology (1960) in Paul C. Burns et al., op. cit., p. 34.

[23]M. Deutch, "The Disadvantaged Child and the Learning Process", in A.H. Passow (ed.), Education in Depressed Areas (New York: Teachers College Columbia University, 1963), p. 165.

If it is inevitable that disadvantaged children will meet with initial failure when instructed via their native English, the presentation of the material in French might only cause them further frustration. Educators and researchers are very concerned about the feasibility of early-grade French immersion for:

1. children of low intelligence and low academic ability;
2. children from working class homes;
3. children with language or learning disabilities; and
4. children from minority groups.[24]

Research in this area is very scarce. Bruck, Rabinovitch and Oates,[25] in a report from a study of a small number of children with learning disabilities, indicate that they are able to keep up with their counterparts in a regular English program. Casserly and Edwards,[26] in testing for language and learning disabilities, found no evidence of detrimental effects as a result of immersion. With regard to socio-economic level, "There has been one comparison of Grade 1 and 2 children from working class backgrounds enrolled in immersion, French and English language schools. The results were generally parallel to those obtained in

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[24] Fred Genesee, op. cit., p. 494.

[25] M. Bruck, M.S. Rabinovitch and M. Oates, "The Effects of French Immersion on Children with Language Disabilities - A Preliminary Report", Working Papers on Bilingualism (Toronto: Ontario Institute for Studies in Education, 1975), pp. 47-84.

[26] Peggy Wightman, "French Immersion: A Canadian Experiment", in Elaine Isabelle (ed.), What's What for Children Learning French (Ottawa: Mutual Press Ltd., 1976), p. 25.

middle-class schools and suggest immersion is an appropriate program for both classes."[27] With regard to the importance of intelligence in immersion programs, the OISE Bilingual Education Project found "that IQ was no more important to success in an immersion program than in a regular program".[28]

In a recent article, Fred Genesee examines what evidence is available on the areas listed above. He sums up his findings as follows:

> In the case of IQ all evidence, direct and indirect, suggests that level of IQ is not an impediment to achievement in French immersion programs any more than it is in a regular academic program in the native language. In fact, the evidence suggests that low IQ students are just as likely to benefit as other students in mastering some aspects of a second language. The evidence pertaining to working class children in French immersion similarly suggests that these children benefit from French immersion in the area of French language acquisition and do not suffer any negative effects to native language competency. Similar conclusions are suggested by preliminary data on language-disabled children in French immersion. The results on minority group children are the most inconclusive, owing largely to methodological complications.[29]

This chapter has examined many of the related research findings on bilingual education. The remainder of this report will deal specifically with an evaluation of the Port au Port project and a discussion of these findings.

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[27] Ibid., p. 25.

[28] Ibid., p. 26.

[29] Fred Genesee, op. cit., p. 512.

CHAPTER III

METHODOLOGY

I. THE SAMPLE

The sample used in this study consisted of fifty-five pupils, the total Kindergarten population of Our Lady of the Cape Primary School. The students were assigned to the two Kindergarten groups, Immersion French and Regular English. Interest in this French immersion project was so great that there were more students than could be accommodated. In selecting, care was taken to see that all of the communities feeding into the school had some representation in the Immersion French group. There were twenty-eight students (14 boys and 14 girls) in the Immersion French group, and twenty-seven students (17 girls and 10 boys) in the Regular English group. The large number of girls in the Regular English group proved to be an important variable. Clare Burstall, reporting on primary French experiments in Great Britain, found that the mean scores obtained on French tests of listening, reading and writing were consistently higher for girls than for boys.

> Studies which have investigated children's verbal skills in the mother tongue have commonly found significant differences in the achievement in favor of girls, prominent during the early years of schooling but tending to diminish with the approach of puberby.
>
> Throughout the primary stage of the experiment, the girls in each cohort consistently reached higher levels of achievement on each of the French tests than did boys.[1]

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[1]Clare Burstall et al., Primary French in the Balance (London: NFER Publishing Company, 1974), pp. 29-30.

Both groups attended school in half-day sessions with approximately fourteen in each group. This was the first year of Kindergarten for all the children involved. None had previously attended day-care centres or nursery schools, as no such facilities were available at Cape St. George. The age range of the students in both groups was comparable, the range in the Immersion French group being from 4 years, 8 months to 5 years, 8 months, and the range in the Regular English group being 4 years, 8 months to 5 years, 7 months.

With regard to social and cultural background, both groups were comparable, all but one of the students having been born at Cape St. George. Table one shows the occupational levels of parents.

TABLE 1

Occupational Levels of Parents

Occupation of Parents[a]	Immersion French	Regular English
Professional	1	0
General labor[b]	4	1
Fisherman	6	6
Bus or truck driver	4	2
Carpenter[b]	2	0
Clerk	0	2
Unemployed	11	6
	28	27

[a]Many parents are separated and the child is no longer with either parent. Many such children reside with grandparents, who are regarded as parents.

[b]Many jobs are of seasonal or temporary nature, and as a result many are out of work for a great part of the year. In many cases there is very little difference between the categories of General labor and Unemployed.

In terms of socio-economic background, the sample is representative of lower socio-economic levels. As shown in Table 1, only one student in the sample comes from a home where the occupational level of the parents could be classified as professional. It is noted that there are many parents who are separated and who often give up custody of some or all of their children. It is also noted that many of the occupations tend to be of a seasonal or temporary nature, and as a result many of the parents are out of work for a great part of the year, receiving social welfare. In addition, the size of families is large by average Canadian standards, "the birth rate in the Port au Port area being one of the highest for any area in all of Canada."[2]

Even though many of the people of Cape St. George are of French descent, all of the children, in terms of language, were designated as unilingual-English. However, some students do come from homes where French is spoken.

With regard to materials used in each Kindergarten, the groups were similar.[3] In mathematics, the Immersion French group used the text Prémath, while the Regular English group used Kindergarten Primer. These texts provide basically the same material. Both texts were preceded by Kindermath

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[2]Papers on Base-line Assessment of French Immersion Experiment (Roman Catholic School Board, Port au Port District, September, 1975).

[3]Information pertaining to materials was gained from an analysis of texts and course descriptions provided by the French consultant for the Port au Port Roman Catholic School Board.

charts and both begin by dealing with concepts and gradually move to some abstraction. Both look basically at recognition of sets, geometric shapes, development of visual memory, following directions, ordering, classifying and comparing of sets, and discovery of patterns.

In science and health, the Immersion French group used Chemins de la Science, and the Regular English group used Big Book for Health. Both texts are similar in content, using an integrated approach to an awareness of the world around, and good health habits.

With regard to religion, the Regular English group used In the Beginning while the Immersion French group used Viens vers le Père. This is really the same program, since the French version was derived from the English text.

In pre-reading, the Immersion French group used Le Livre Rouge while the Regular English group used a comparable program, Ginn Kit A (Pre-reading Skills). In addition, the Immersion French group used Au Jardin Fleuri and Au Pays du Langage, while the Regular English group used Ginn Kit B and Hickory Hollow. Both programs emphasized pre-reading skills: initial consonants, visual discrimination, lettering, motor development, colors and words.

In addition to the prescribed texts, both classrooms were very well-equipped, having small libraries, television sets, games and other activity-centred materials, and, for the most part, the many activities in both classes were similar.

Both the Immersion French and the Regular English groups thus followed a similar basic-skills program. The Immersion French group was taught in French by a native French teacher, while the Regular English group was taught in English by a native English teacher. The Regular English group was given a daily period of 15 minutes instruction in French as a second language.

Both the Immersion French group and the Regular English group had primarily the same goals and objectives. However, the Regular English group went on to a reader, Funny Surprises, while the Immersion French group did not go beyond the pre-reading stage. Many of the visual aids for letter-recognition used in the Regular English group were prepared by the teacher, while the Immersion French group used the commercially-produced visual aids included in the program.

The Regular English group was taught by an experienced teacher, specifically trained for teaching in the primary grades. The Immersion French group, however, was taught by a teacher with little experience, and with no previous training in primary teaching methods. An attempt was made to overcome this by providing the Immersion French group with a teacher-aide, who did have some experience and training in the area of primary teaching.

II. INSTRUMENTS

Testing materials included the following standardized tests:

The Peabody Picture Vocabulary Test[4] is widely used in Newfoundland schools and gives a good indication of language development from the point of view of auditory or receptive vocabulary. This test consists of identification of picture stimuli, which gives a count of receptive vocabulary items. It is administered on an individual basis. Reliability coefficients for the PPVT were obtained by calculating Pearson product-moment correlations on the raw scores of the standardization subjects for forms A and B at each level. Correlations ranged from a low of 0.67 at the six year level to a high of 0.84 at the 17 and 18 year levels, with a median of 0.77. At the five year old level, $r = 0.73$.

Assessment of Children's Language Comprehension[5] was developed to define receptive language difficulties in young children. The test uses a core vocabulary of 50 common words combined into two, three, and four element phrases. The critical elements used test the child's knowledge of such units as agents, actions, relations,

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[4] L.M. Dunn, Peabody Picture Vocabulary Test (Circle Pines, Minn.: American Guidance Services, 1959), pp. 30-32.

[5] Rochana Foster, Jane J. Giddan and Joel Stark, Manual for the Assessment of Children's Language Comprehension (Palo Alto, Calif.: Consulting Psychologists Press, Inc., 1972) pp. 15-19.

objects and attributes, that is, the critical elements in an active declarative sentence. This test consists of a series of plates and a recording sheet and is administered on an individual basis.

In Part A of this test the items present one critical element each. It consists of 50 commonly used words, containing no more than two syllables such as, lady, big, balloon, etc.

In Part B, the child must identify two critical elements such as, man sitting, big shoe, happy lady, etc.

In Part C, a third critical element is added. Examples of this are: cat behind the bed, happy lady sleeping, balloon over the house, etc.

In Part D, there are four critical elements such as boy standing in the house, clown eating the big apple, broken boat on the table, etc.

In each section the child must point to the picture which represents what he has heard.

Odd-even reliability coefficients were computed for the single element (vocabulary) items and for Tests B, C, and D combined. The testing manual gives these coefficients as 0.86 and 0.80, respectively.

Gates MacGinitie Readiness Skills Test (1968 edition)[6] was developed to predict success in First Grade reading, and

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[6]Arthur I. Gates and Walter H. MacGinitie, Readiness Skills Tests: Technical Supplement (New York: Columbia University Teachers' College Press, 1968), pp. 1-4.

is intended for use at the end of Kindergarten. It includes subtests relating to most of the pre-reading skills included in the Kindergarten program: listening comprehension, auditory discrimination, visual discrimination, following directions, letter recognition, visual-motor coordination, auditory blending, and word recognition. This test was administered in small groups of about seven students. The Kuder-Richardson formula 20 was used to determine reliability coefficients for each subtest. The technical supplement for the test gives the following median reliability coefficients for Kindergarten use of the test: Listening Comprehension ($r = 0.72$), Auditory Discrimination ($r = 0.73$), Visual Discrimination ($r = 0.87$), Following Directions ($r = 0.70$), Letter Recognition ($r = 0.85$), Visual-Motor Coordination ($r = 0.64$), Auditory Blending ($r = 0.63$) and Word Recognition ($r = 0.69$).

III. PROCEDURE

The above mentioned tests were administered to all of the students in the sample (Immersion French and Regular English) in May, 1975, and comparisons were made between the scores of the Immersion French group and those of the Regular English group in the following areas: reading readiness, receptive vocabulary, English language comprehension, auditory discrimination, listening comprehension, visual discrimination, following directions, letter recognition,

visual-motor coordination, auditory blending, and word recognition. These comparisons were made to determine whether or not having the Kindergarten year taught in French would have any detrimental effects on the students' development of English language receptive skills and general reading readiness. A one-tailed t-test at the 0.25 level of confidence was selected because of the importance attached by the District to determining if the French immersion kindergarten class was not "keeping up" with the regular English kindergarten class. The procedure does increase the possibility that a difference will be considered significant even though it truly is not; therefore, when it is concluded that a difference is significant, it would be wise to verify this conclusion with further evaluation. Other variables considered in the study were intelligence, sex, occupation of parents, and language spoken in the home. These variables were compared between groups using an analysis of variance, rejecting null hypotheses at the .05 level of confidence. An IQ measure was obtained from scores on the Ravens Progressive Matrices which had been administered a month earlier in the school term. The questions posed by this report were discussed and a number of recommendations were suggested.

IV. LIMITATIONS OF STUDY

The Port au Port area is not typical of the province of Newfoundland. It has a French heritage and has recently

been designated a bilingual district. For these reasons alone, the purposes of establishing an immersion program in other parts of the province would be somewhat different.

The rural nature and the socio-economic status of the Port au Port area prevent the results of this study from being relevant to any of the middle-class urban studies that have been done in many other parts of Canada.

The generalizability of these findings is rather limited. The findings are, in fact, limited to the students of the Port au Port area of the province.

CHAPTER IV

ANALYSIS OF DATA

I. COLLECTION AND TREATMENT OF DATA

The purpose of this internship was to determine to what extent being taught in French during the Kindergarten year would affect the student's development of English language receptive skills and general reading readiness. Relationships were also sought between reading readiness and intelligence, sex, occupational level of parents, and language spoken in the home. No attempt will be made in this report to discuss in any detail achievement in French, as this is being done in a related report.

In May 1976 all students (Immersion French and Regular English) were given the battery of tests listed in the Methodology section of this report. The pupils were tested in rooms set up specifically for the testing. All tests were administered in English by native speakers of English. The Peabody Picture Vocabulary Test and the Assessment of Children's Language Comprehension were administered on an individual basis, while the Gates MacGinitie Readiness Skills Test was administered to groups of approximately seven students in two separate sessions for each group.

Background information pertaining to the variables of sex, occupation of parents, and language spoken in the

home was obtained from the files of the classroom teachers. An IQ measure was taken from scores obtained on the Ravens Progressive Matrices which had been administered earlier in the school term.

So as to compare the Immersion French group and the Regular English group in terms of reading readiness level, the results of the tests were analysed as described in Chapter III. The results of the statistical analysis of the data for each question posed are reported in this chapter.

II. RESULTS OF THE STATISTICAL ANALYSIS

Question 1

With regard to reading readiness, is there a significant difference between the mean scores of students trained by Immersion French and a comparison group of students trained via Regular English?

With regard to reading readiness, the following pre-reading skills were examined individually: listening comprehension, auditory discrimination, visual discrimination, following directions, letter recognition, visual-motor coordination, auditory blending, and word recognition.

Table 2 shows the raw scores, means, and standard deviations of the subtest on listening comprehension for the Immersion French and Regular English groups.

TABLE 2

Raw Scores, Means and Standard Deviations for Listening Comprehension Subtest Scores (Gates MacGinitie Readiness Skills Test) for Immersion French and Regular English Groups

	High Score[a]	Low Score	Mean	t[b]	SD	F
Immersion French (N=28)	16	4	9.8		2.89	
				-0.08		1.34
Regular English (N=27)	17	5	9.9		3.36	

[a] Maximum score 20

[b] 0.25 level of confidence

As is shown in Table 2, the two treatment groups performed similarly in terms of means obtained on the subtest of listening comprehension. No significant differences were found and the range of scores was the same for both groups. Having the Kindergarten year in French did not seem to have any negative effects on the development of listening comprehension in English.

Table 3 shows the raw scores, means, and standard deviations for the subtest of auditory discrimination for the Immersion French and Regular English groups.

TABLE 3

Raw Scores, Means, and Standard Deviations for Auditory Discrimination Subtest Scores (Gates MacGinitie Readiness Skills Test) for Immersion French and Regular English Groups

	High[a] Score	Low Score	Mean	t[b]	SD	F
Immersion French (N=28)	21	10	17.0	0.29	3.14	0.52
Regular English (N=27)	21	10	16.7		3.57	

[a]Maximum score 21

[b]0.25 level of confidence

Both groups performed similarly on the subtest of auditory discrimination, the range of scores being the same. No significant differences were found between the mean scores of the Immersion French and Regular English groups. Even after nine months of being instructed completely in French, the Immersion French group displayed an ability similar to their Regular English counterparts in discriminating closely-related English sounds. Having the Kindergarten year in French apparently had no detrimental effect on auditory discrimination ability in English, in fact the mean score for the Immersion French group was slightly higher than that for the Regular English group.

Table 4 shows the raw scores, means, and standard deviations for the subtest of visual discrimination for the

Immersion French and Regular English groups.

TABLE 4

Raw Scores, Means, and Standard Deviations for the Visual Discrimination Subtest Scores (Gates MacGinitie Readiness Skills Test) for Immersion French and Regular English Groups

	High* Score	Low Score	Mean	t	SD	F
Immersion French (N=28)	24	4	14.9	-0.27	5.77	0.64
Regular English (N=27)	22	5	15.3		5.27	

*Maximum score 24

As is shown in Table 4, the range of scores for the Immersion French group was somewhat greater than that for the Regular English group, and the mean score for the Immersion French group was slightly lower than that for the Regular English group, but the difference was not found to be significant at the 0.25 level of confidence.

Table 5 shows the raw scores, means and standard deviations of the scores on the subtest of following directions for the Immersion French and Regular English groups.

TABLE 5

Raw Scores, Means, and Standard Deviations for Following Directions Subtest Scores (Gates MacGinitie Readiness Skills Test) for Immersion French and Regular English Groups

	High* Score	Low Score	Mean	t	SD	F
Immersion French (N=28)	13	2	9.0		3.40	
				0.69		0.90
Regular English (N=27)	14	2	8.4		3.32	

*Maximum score 14

As can be seen from Table 5, the mean score of the Regular English group was slightly higher than that for the Immersion French group, however the difference was not found to be significant at the 0.25 level of confidence. Having the Kindergarten year in French did not appear to have any negative effect on the comprehension needed to follow directions given in English. The Immersion French students performed similarly to their Regular English counterparts.

Table 6 shows the raw scores, means, and standard deviations of the subtest on letter recognition for the Immersion French and Regular English groups.

TABLE 6

Raw Scores, Means, and Standard Deviations for Letter Recognition Subtest Scores (Gates MacGinitie Readiness Skills Test) for Immersion French and Regular English Groups

	High* Score	Low Score	Mean	t	SD	F
Immersion French (N=28)	18	5	12.3		4.00	
				-4.04		2.12
Regular English (N=27)	18	8	16.1		2.74	

*Maximum score 18

As is shown in Table 6, the range of scores for both groups is similar, but in terms of mean scores, the Regular English group performed considerably better than the Immersion French group. This difference was found to be significant at the 0.25 level of confidence. Even though letter recognition did form part of each Kindergarten program, different visual aids were used for letter recognition in the Regular English classroom. These visual aids, as mentioned earlier, were prepared by the classroom teacher, and may have been given a more extensive treatment. In the Immersion French classroom, visual aids used as part of the prescribed materials were commercially-produced. In addition, the Regular English group were instructed in reading, while the Immersion French group remained in the pre-reading stage. This experience with reading would have improved the letter recognition skill

of the Regular English group and might account for part of the difference in mean scores. Another factor to be considered is that the teacher of the Immersion French group was not trained in primary teaching methods, and consequently may have not been aware of a progression in basic reading skill development. In striving for comprehension, less emphasis may have been given to such basic skills as letter recognition. The Regular English group entered school with basic comprehension of the working language of the classroom, and could immediately turn its attention to other basic skill building. In spite of this, as is shown in Table 6, there is a similarity in the range of scores for the two groups.

Table 7 shows the raw scores, means, and standard deviations for the subtest on visual motor coordination for the Immersion French and Regular English groups.

TABLE 7

Raw Scores, Means, and Standard Deviations for Visual Motor Coordination Subtest Scores (Gates MacGinitie Readiness Skills Test) for Immersion French and Regular English Groups

	High* Score	Low Score	Mean	t	SD	F
Immersion French (N=28)	19	3	14.0	0.97	4.16	1.23
Regular English (N=27)	21	6	12.8		4.66	

*Maximum score 21

As is seen from Table 7, in terms of mean scores, the Immersion French group did somewhat better than the Regular English group; however, this difference was not found to be significant at .025 level of confidence. The range of scores was similar for both groups. Being taught in French during the Kindergarten year did not appear to have had any negative effect on the development of visual motor coordination. The Immersion French group displayed an ability similar to, and in several cases better than, their Regular English counterparts in constructing the printed letters involved.

Table 8 shows the raw scores, means, and standard deviations for the subtest on auditory blending for the Immersion French and the Regular English groups.

TABLE 8

Raw Scores, Means, and Standard Deviations for Auditory Blending Subtest Scores (Gates MacGinitie Readiness Skills Test) for Immersion French and Regular English Groups

	High* Score	Low Score	Mean	t	SD	F
Immersion French (N=28)	14	5	10.5		3.06	
				-0.54		1.18
Regular English (N=27)	14	5	10.9		2.81	

*Maximum score 14

As is shown in Table 8, results were similar on the subtest of auditory blending. The range of scores was the same for both groups and the mean scores were very close. A t-test found no significant difference at the 0.25 level of confidence, indicating that instruction in French during the Kindergarten year had no negative effect on the auditory blending skill in English.

Table 9 shows the raw scores, means, and standard deviations for the subtest on word recognition for the Immersion French and Regular English groups. This subtest does not form part of the total reading readiness score, since it necessarily involves reading.

TABLE 9

Raw Scores, Means, and Standard Deviations for Word Recognition Subtest Scores (Gates MacGinitie Readiness Skills Test) for Immersion French and Regular English Groups

	High* Score	Low Score	Mean	t	SD	F
Immersion French (N=28)	24	4	10.1		4.33	
				-3.24		1.24
Regular English (N=27)	22	8	14.1		4.82	

*Maximum score 24

Table 9 shows that in terms of mean scores, the Regular English group scored substantially higher than the Immersion French group. This difference was found to be significant at the 0.25 level of confidence. This difference was expected since it involved a reading skill rather than a pre-reading skill. As mentioned earlier, the Regular English group was given instruction in reading while the Immersion French group did not go beyond the pre-reading stage. Considering that the Immersion French group had no instruction in reading, it is worthwhile to note that some of its members did very well on this subtest, four of them scoring above the mean score for the Regular English group. The highest score obtained on this subtest was by a student from the Immersion French group.

Table 10 shows the total weighted scores, means, and standard deviations of scores on the Gates MacGinitie Readiness Skills Test for the Immersion French and the Regular English groups.

TABLE 10

Total Weighted Scores, Means and Standard Deviations for Gates MacGinitie Readiness Skills Test Scores for Immersion French and Regular English Groups

	High Score	Low Score	Mean	t	SD	F
Immersion French (N=28)	92	33	62.5	-0.78	15.38	1.18
Regular English (N=27)	88	37	65.6		14.19	

Table 10 shows that the Regular English group scored somewhat higher than the Immersion French group in terms of mean total weighted score. This difference was probably due to the fact that the greatest weight of all the subtests was that given to the subtest of letter recognition. The assigned weights of the Gates MacGinitie Readiness Skills Test are as follows:[1]

Subtest	Weight
Listening Comprehension	1
Auditory Discrimination	2
Visual Discrimination	2
Following Directions	2
Letter Recognition	3
Visual Motor Coordination	1
Auditory Blending	1

Letter recognition was given a weight of 3 while all other subtests were given either 1 or 2. As mentioned earlier, the Immersion French group was significantly lower than the Regular English group in mean scores obtained on the subtest of letter recognition, so this would have to affect the total weighted score.

Table 10 shows that the mean total weighted scores for the Immersion French and Regular English groups were 62.5

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[1]Arthur I. Gates and Walter H. MacGinitie, Gates MacGinitie Readiness Skills Test (New York: Teachers' College Press, Columbia University, 1968), p. 15.

and 65.6 respectively. The Technical Supplement for the Gates MacGinitie Readiness Skills Test states that

> The Total Weighted Score represents performance on the entire test and generally should be used when evaluating general reading readiness. A total weighted score of 60 (the sum of each weight times a stanine of 5) should theoretically correspond to a Readiness Standard Score and a Readiness Percentile Score of 50.[2]

This being the case, it is questionable whether 20 of the students (11 in the Immersion French group and 9 in the Regular English group) are ready to begin reading.

Table 11 shows the distribution of total weighted scores on the Gates MacGinitie Readiness Skills Test for the Immersion French and Regular English groups.

TABLE 11

Distribution of Total Weighted Scores for Gates MacGinitie Readiness Skills Test for Immersion French and Regular English Groups

Total Weighted Scores	Number of Students	
	Immersion French	Regular English
90-100	2	0
80-89	1	5
70-79	8	9
60-69	6	4
50-59	2	5
40-49	8	2
30-39	1	2
Total	28	27

[2]Arthur I. Gates and Walter H. MacGinitie, Technical Supplement: Gates MacGinitie Readiness Skills Test (New York: Teachers' College Press, Columbia University, 1968), p. 2.

Table 11 shows that in the Immersion French group, 11 students or 39.3 per cent of that group fell below the total weighted score of 60, while in the Regular English group, 9 students or 33 per cent of that group fell below the total weighted score of 60.

This distribution indicates that it is questionable whether 20 students (36 per cent of the sample) are ready to begin reading. Considering the means and distributions, it appears that such scores can not be attributed to the type of treatment given to the groups.

Question 2

With regard to receptive vocabulary development, is there a significant difference between the mean scores obtained by the Immersion French group and those obtained by the Regular English group?

The Peabody Picture Vocabulary Test was used as a measure of receptive vocabulary. A t-test was made with significance sought at the 0.25 level of confidence.

Table 12 shows the raw scores, means, and standard deviations of scores obtained on the Peabody Picture Vocabulary Test by the Immersion French group and the Regular English group.

TABLE 12

Raw Scores, Means, and Standard Deviations for Scores on the Peabody Picture Vocabulary Test for Immersion French and Regular English Groups

	High Score	Low Score	Mean	t	SD	F
Immersion French (N=28)	57	14	44.0		10.03	
				-0.40		2.30
Regular English (N=27)	54	28	45.0		6.61	

As is shown in Table 12, in terms of mean scores, the results for both groups were similar. The Immersion French compared favorably with the Regular English group, with mean scores of 44.0 and 45.0 respectively. The difference was not considered significant at the 0.25 level of confidence ($t = 0.40$). However, Table 12 also shows that the range of scores for the Immersion French group was somewhat greater than that for the Regular English group, with both the highest and lowest scores occurring in the Immersion French group.

Table 13 shows the distribution of raw scores on the Peabody Picture Vocabulary Test for the Immersion French and Regular English groups.

TABLE 13

Distribution of Raw Scores on the Peabody Picture Vocabulary Test for Immersion French and Regular English Groups

Raw Scores	Number of Students	
	Immersion French	Regular English
50-60	7	8
40-49	18	14
30-39	1	4
20-29	0	1
10-19	2	0
Total	28	27

As can be seen from Table 13, in the Immersion French group, 25 students or 89.3 per cent of that group scored at or above the raw score of 40, while in the Regular English group 22 students or 81.5 per cent of that group, scored at or above the raw score of 40. The remainder of the students, 3 in the Immersion French group and 5 in the Regular English group, scored below the raw score of 40. Upon consultation with the classroom teachers, it was found that these students were considered to be generally weak in many areas of their programs. This was true of those students from both the Regular English group and the Immersion French group. Generally, the two groups performed similarly with regard to development of receptive vocabulary in English.

Question 3

With regard to English language comprehension, progressing from simple to more complex elements, is there a significant difference between the mean scores obtained by the Immersion French group and the Regular English group?

Table 14 shows the raw scores, means, and standard deviations of scores on the Assessment of Children's Language Comprehension for the Immersion French group and the Regular English group.

As is shown in Table 14, in terms of vocabulary, the range of scores for the Immersion French group was slightly greater than that for the Regular English group, but in terms of mean scores they performed similarly. A t-score of -0.56 was not found to be significant at the 0.25 level of confidence. The results of the subtest on vocabulary were very similar to those of the Peabody Picture Vocabulary Test, since both tests were measuring a similar aspect of English language comprehension.

Table 14 shows that in terms of two-component-comprehension, the range of scores for the two groups was the same, a high score of 10 and a low score of 5. In terms of mean scores, the two groups performed similarly. The same was true of the scores on the four-component-comprehension for the Immersion French and Regular English groups, with means of 7.9 and 8.1 respectively, and scores ranging from a high of 10 to a low of 4 for both groups.

TABLE 14

Raw Scores, Means and Standard Deviations of Scores on Assessment of Children's Language Comprehension for Immersion French and Regular English Groups

Assessment of Children's Language Comprehension	Immersion French (N=28) High Score	Low Score	Mean	SD	Regular English (N=27) High Score	Low Score	Mean	SD	t[a]	F[b]
Vocabulary	50	39	47.8	2.73	50	42	48.1	1.97	-0.56	1.93
Two-Component-Comprehension	10	5	9.0	1.37	10	5	9.3	1.17	-0.96	1.38
Three-Component-Comprehension	10	4	8.3	1.80	10	6	8.8	1.24	-1.26	2.11
Four-Component-Comprehension	10	4	7.9	1.88	10	4	8.1	1.66	-0.46	1.29

[a] t-test significant at .25 level of confidence

[b] F test significant at .25 level of confidence

The greatest difference in both range and mean scores occurred in the three-component-comprehension. The Immersion French group had a high score of 10 and a low score of 4, while the Regular English group had a high score of 10 and a low of 6. The mean scores for the Immersion French and Regular English groups were 8.3 and 8.8 respectively. The Regular English group appears to be somewhat ahead of the Immersion French group in terms of three-component-comprehension features such as noun + verb + noun. When one considers that the Regular English group had received instruction in reading, and that basal readers at this level tend to concentrate on sentences containing three-component features, it is understandable that they were more familiar with this aspect. In addition a large percentage of the oral language used in the Regular English classroom would tend to emphasize the three-component features, while in the Immersion French classroom, there was an absence of this oral practice in English. The Immersion French group did just as well as the Regular English group on the more difficult four-component-comprehension features such as noun + verb + modifier + noun. This appears to be due to the fact that neither group was superior to the other in dealing with such features.

Looking at the overall results of the Assessment of Children's Language Comprehension, it can be seen from Table 14 that the highest scores for both groups were in the two-component-comprehension, with a steady decrease in scores

through the three-component-comprehension, with lowest scores occurring in the four-component-comprehension. This is to be expected since each subtest becomes progressively more difficult. Both groups performed similarly in that all children did progressively less well on the sequence of subtests. The reason for the wider range in the three-component-comprehension appears to be due to the familiarity possessed by the Regular English group, since three-component-features had been regularly met in the classroom situation.

Question 4.1

Is there a relationship between the IQ level of the student and his/her level of reading readiness?

Table 15 shows the scores, means and standard deviations of scores on the Ravens Progressive Matrices and the Gates MacGinitie Readiness Skills Test for the Immersion French and Regular English groups.

As can be seen from Table 15, the correlation between the scores on the Ravens Progressive Matrices and the Gates MacGinitie Readiness Skills Test for the Immersion French group is considerably higher than that for the Regular English group. In terms of mean scores obtained on the Ravens Progressive Matrices, the Immersion French group did somewhat better than the Regular English group, but on the Gates MacGinitie Readiness Skills Test, the mean score for the Regular English group was higher than that of the Immersion French group. It is interesting to note that the

TABLE 15

Scores, Means and Standard Deviations of Scores on Ravens Progressive Matrices and Gates MacGinitie Readiness Skills Test for Immersion French and Regular English Groups

	Ravens PM					Gates MacGinitie					
	N[a]	High Score	Low Score	Mean	SD	N	High Score	Low Score	Mean	SD	r[b]
Immersion French	27	30	8	15.4	4.69	28	92	33	62.5	15.38	0.66
Regular English	27	20	8	14.6	3.47	27	88	37	65.6	14.19	0.48
Total Population	54	30	8	15.0	4.11	55	92	33	64.03	14.75	0.52

[a]One test was classified as invalid, bringing total of Immersion French pupils from 28 to 27.

[b]Pearson product-moment correlation, significant at .05 level of confidence.

treatment group having the higher mean score on the Ravens Progressive Matrices had the lower mean score on the Gates MacGinitie Readiness Skills Test, and yet the correlation between the two tests seems to be reasonably high (0.66 for the Immersion French group, and 0.48 for the Regular English group). The higher correlation for the Immersion French group is of interest. Since the Immersion French group had no instruction in English, they may have had to rely more on their cognitive ability. The lack of instruction in English may account for the higher correlation between the scores of the two tests for the Immersion French group.

Table 16 shows the distribution of scores obtained on the Ravens Progressive Matrices for the Immersion French group and the Regular English group as well as the mean scores obtained on the Gates MacGinitie Readiness Skills Test by the students in the various distribution levels for each group.

TABLE 16

High Scores, Low Scores and Means for Gates MacGinitie Readiness Skills Test Compared Across Distribution Levels of Scores on the Ravens Progressive Matrices for the Immersion French and Regular English Groups

Distribution of Scores (Ravens PM)	Gates MacGinitie Readiness Skills Test: Immersion French N	High	Low	Mean	Regular English N	High	Low	Mean
25-30	1	92	--	92	0	--	--	--
20-24	2	73	60	66.5	2	82	77	79.5
15-19	12	90	47	69.7	11	88	37	67.8
10-14	9	72	33	53.7	12	78	39	61.9
5-9	3	71	43	53.3	2	70	54	62.0
Total	27[a]				27			

[a]One test was classified as invalid, bringing the total of Immersion French from 28 to 27.

Table 16 shows that for each category of scores on the Ravens Progressive Matrices there is a wide range of corresponding scores on the Gates MacGinitie Readiness Skills Test for both the Immersion French and Regular English groups. Students in the Immersion French group scoring in the range of 5 to 9 on the Ravens Progressive Matrices were able to score as high as 71 on the Gates MacGinitie Readiness Skills Test, while students in the range of 15 to 19 on the Ravens Progressive Matrices scored as low as 47 on the Gates MacGinitie Readiness Skills Test. The same variation is present in the Regular English group.

Table 16 also shows that the student who scored highest on the Ravens Progressive Matrices also received the highest score on the Gates MacGinitie Readiness Skills Test. In terms of mean scores, the higher scores obtained on the Gates MacGinitie Readiness Skills Test occurred in the three higher distribution levels of the Ravens Progressive Matrices. There appears to be a relationship between the IQ level of the student and his/her level of reading readiness.

Question 4.2

Is there a relationship between the occupational level of the parents and the reading readiness level of the student?

Table 17 shows the means and standard deviations of scores obtained on the Gates MacGinitie Readiness Skills Test by students representative of the various parent occupation groups for the total population.

TABLE 17

Comparison of Means and Standard Deviations of Scores on Gates MacGinitie Readiness Skills Test Across Parent Occupation Groups for the Total Population

Occupation of Parents	Number Students	Mean[a]	SD
Labor	15	61.87	13.65
Fisherman	12	59.25	15.94
Driver	6	70.17	19.57
Carpenter	2	69.50	13.44
Clerk	2	58.50	12.02
Unemployed	17	65.53	12.74
Total	54[b]	63.52	13.90

[a]F = 0.6708; not significant at .05 level of confidence

[b]One student representing professional occupation group was deleted.

Table 17 shows the occupation categories not including the student representing the professional category. This student scored 92 as a total readiness score and was far above the means of the representatives of the other parent occupation groups. The professional category is not representative of the occupational status of the total population, and it was deleted so as not to bias the comparison.

It is shown in Table 17 that the F ratio of 0.6708 was not found to be significant at the .05 level of confidence. It appears that there is no significant relationship between the six occupational levels of parents and the reading

readiness scores of the students. However, as can be seen from the occupations listed in Table 17, all of the occupations tend to be similar in nature. As mentioned earlier in this report, much of the work is seasonal in nature and many are unemployed for a great part of the year. The vast majority of the people in the Cape St. George region are of similar socio-economic background.

Table 18 shows the mean scores obtained on the Gates MacGinitie Readiness Skills Test for students representative of the various parent occupational levels for the Immersion French and Regular English groups.

TABLE 18

Mean Scores of Students on Gates MacGinitie Readiness Skills Test Compared Across Occupations of Parents for Immersion French and Regular English Groups

Occupation	Gates MacGinitie Readiness Skills Test			
	Immersion French		Regular English	
	No.	Mean	No.	Mean
Professional	1	92.0	0	--
Labor	4	63.7	11	61.2
Fisherman	6	53.3	6	65.2
Driver	4	65.5	2	79.9
Carpenter	2	69.5	0	--
Clerk	0	--	2	58.5
Unemployed	11	62.0	6	72.0
Total	28	62.5	27	65.6

Table 18 shows that apart from the one student whose parents were classified as professional, there doesn't seem to be any definite relationship between parents' occupations and the readiness scores of the students. For example, the mean scores obtained by students whose parents were fishermen ranged from 53.3 in the Immersion French group to 62.2 in the Regular English group. A wide range of mean scores is reflected across all the occupational categories. As mentioned earlier, apart from the professional category, there is very little difference in the nature of the occupational levels. This is supported by the similarity in mean scores for the unemployed occupation level in the Immersion French and the labor occupation level in the Regular English group. There were 11 students representing each level and the mean scores were 62.0 and 61.2 respectively.

Question 4.3

How does the reading readiness level of boys compare to that of girls?

Table 19 shows the means and standard deviations of scores obtained on the Gates MacGinitie Readiness Skills Test for boys and girls for the total population.

TABLE 19

Means and Standard Deviations of Scores obtained on Gates MacGinitie Readiness Skills Test for Boys and Girls for Total Population

	N	Mean*	SD
Boys	24	58.5417	15.3283
Girls	31	68.2903	12.9903
Total	55	64.0364	14.7522

*t = 2.5514; significant at .05 level of confidence.

As is shown in Table 19, the reading readiness level of girls is significantly higher than that of boys in terms of mean scores obtained on the Gates MacGinitie Readiness Skills Test. It is also shown that there is a higher proportion of girls in the sample.

Table 20 shows the total weighted scores and means obtained on the Gates MacGinitie Readiness Skills Test for boys and girls in the Immersion French and Regular English groups.

TABLE 20

Total Weighted Scores and Means Obtained on Gates MacGinitie Readiness Skills Test for Boys and Girls in the Immersion French and Regular English Groups

	Immersion French				Regular English			
	N	High	Low	Mean	N	High	Low	Mean
Boys	14	92	40	58	10	82	37	51.1
Girls	14	90	33	67	17	88	50	69.3
Total	28	92	33	62.5	27	88	37	65.6

As is shown in Table 20, the girls in both the Immersion French group and the Regular English group scored higher than the boys in terms of mean scores. It can also be seen that the difference in mean scores for boys and girls is greater in the Regular English group than in the Immersion French group. It is also interesting to note that the mean score for boys in the Immersion French group was higher than that of boys in the Regular English group.[3] The Immersion French group had 14 boys and 14 girls, while the Regular English had 17 girls and only 10 boys. Since girls scored consistently higher than boys in both groups, this may account for the mean scores in reading readiness for the Regular English group being slightly higher than those for the Immersion French group.

[3]See recommendations, p. 73.

Question 4.4

Does the fact that French is spoken in the home have any effect on the scores of students when tested in English?

Table 21 shows the means and standard deviations of scores obtained on the Gates MacGinitie Readiness Skills Test for the total population compared with respect to language spoken in the home.

TABLE 21

Mean and Standard Deviations of Scores on Gates MacGinitie Readiness Skills Test for Total population Compared Across Home Language

Home Language	N	Mean*	SD
Some French	15	59.20	13.46
No French	40	65.85	14.96
Total	55	64.04	14.75

*t = 1.5062; not significant at .05 level of confidence.

As is shown in Table 21, the mean scores of students who come from homes where French is spoken is lower than that of those who come from homes where no French is spoken; however, a t-test was not found to be significant at the .05 level of confidence.

Table 22 shows the total weighted scores and means obtained on the Gates MacGinitie Readiness Skills Test by

students who come from homes where some French is spoken and those who come from homes where no French is spoken, for the Immersion French and Regular English groups.

TABLE 22

Total Weighted Scores and Means Obtained on Gates MacGinitie Readiness Skills Test for Immersion French and Regular English Groups Compared Across Language Spoken in the Home

	Immersion French				Regular English			
Home Language	N	High	Low	Mean	N	High	Low	Mean
Some French	8	73	40	54.3	7	83	49	64.7
No French	20	92	33	65.7	20	88	37	65.9

Table 22 shows that for both the Immersion French group and the Regular English group, the mean scores for students coming from homes where French is spoken are slightly lower than those for students from homes where no French is spoken. The difference is greater in the Immersion French group. It appears that students who hear French spoken at home as well as in school, score lower than students who hear no French at home. The fact that French is spoken in the homes, although not significant at the .05 level of confidence for the total population, apparently does have some effect on the scores of the students of the Immersion French group when tested in English. This might mean that students who hear French at home may have difficulty in later grades when

the proportion of English study is increased, or that their reading readiness in English may develop more slowly than that of their peers.

CHAPTER V

SUMMARY AND CONCLUSIONS

This chapter includes a summary of the study, conclusions that were drawn from the analysis of the data, and recommendations for further investigation.

I. SUMMARY

There is at present a strong movement towards bilingual education in all provinces of Canada. However, present school programs in French as a second language are not designed to produce the level of bilingualism which is now desired in Canadian society. It is widely held that the best way to achieve bilingual education is to take advantage of the great learning potential of young children. The awakening of interest in the acquisition of French, combined with theories supporting the impressive ability for language development in early childhood, have led to the establishment of early-grade French immersion programs throughout the country. As stated by Edwards and Smyth, "There is wide agreement that early-grade immersion programs, usually starting in Kindergarten or Grade One, result in a higher level of bilingualism than do the traditional approaches to language instruction."[1]

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[1]See Chapter I, page 4 of this report.

Many studies have been completed and published on early-grade immersion programs, and generally the findings appear to be in favor of bilingual education. It has been found in many such experiments that the children in French immersion classes do as well as the children in the regular English program in all areas, with the exception of a lag in English language skills which tends to be overcome after the introduction of formal instruction in English language arts. Because of the great success of such immersion programs, early-grade immersion is becoming an accepted form of second-language training in many parts of Canada.

Most of the research available on early-grade immersion projects has dealt with majority group youngsters of average or above average intelligence who tend to come from higher socio-economic status families. Research pertaining to immersion education for the disadvantaged child is sparse and in many areas far from conclusive. What research is available in this area tends to support the view that such factors as IQ and socio-economic level may not be impediments to achievement in French immersion programs any more than they are in a regular academic program in the native language.

In September 1975 early-grade immersion made its debut in Newfoundland with the establishment of an immersion French Kindergarten at Our Lady of the Cape Primary School in Cape St. George. The purpose of this present study was to determine to what extent their being taught in French during the Kindergarten year would affect the students'

development of English language receptive skills and general reading readiness. Relationships were also sought between reading readiness and the variables of IQ, sex, occupational level of parents, and language spoken in the home.

The sample for the study consisted of 55 Kindergarten students (the total Kindergarten population of Our Lady of the Cape Primary School). The students were assigned to two Kindergarten groups, 28 students in the Immersion French group and 27 students in the Regular English group. The groups were similar in terms of background, coming from both unilingual and bilingual homes and representing basically the same socio-economic level. None of the students had previously attended day-care centres or nursery schools. The age range of the students in both groups was also comparable.

Both groups had similar instructional goals for the basic skills program. The Immersion French group was taught in French by a native French teacher and the Regular English group was taught in English by a native English teacher. With regard to instructional materials, the two groups were similarly equipped.

The instruments used in evaluating the students were the Peabody Picture Vocabulary Test, the Assessment of Children's Language Comprehension, and the Gates MacGinitie Readiness Skills Test. In May 1976 all of the students Immersion French and Regular English) were given this battery of tests. An IQ measure was taken from scores obtained on

the Ravens Progressive Matrices which had been administered about a month earlier in the school term. All tests were administered in English by native speakers of English.

The data concerning the questions posed by the study with regard to reading readiness, English language comprehension and receptive vocabulary was examined using the statistical technique of a t-test with significance set at 0.25. The data pertaining to the relationship between reading readiness and the variables of IQ, sex, parents' occupations and home language was examined using an analysis of variance with level of significance set at .05.

Results of the statistical analysis of the above data gave the following information with regard to questions posed:

1. With regard to reading readiness as measured by the Gates MacGinitie Readiness Skills Test, the Immersion French group compared favorably with the Regular English group in terms of mean scores obtained on subtests dealing with the pre-reading skills of listening comprehension, auditory discrimination, visual discrimination, following directions, visual motor coordination, and auditory blending. The Regular English group performed significantly better than the Immersion French group in terms of mean scores obtained on subtests of letter recognition and word recognition.

6. In terms of mean scores obtained on the Gates MacGinitie Readiness Skills Test, the reading readiness level of girls was significantly higher than that of boys. The boys in the Immersion French group did somewhat better than the boys in the Regular English group.

7. In terms of mean scores on the Gates MacGinitie Readiness Skills Test, children who came from homes where French was spoken scored lower than those who came from homes where no French was spoken. The difference may have implications for the progress of the students.

II. CONCLUSIONS

Based upon the statistical analysis of the data obtained from the instruments used, the following conclus were drawn:

1. The children in the Immersion French group appear to have attained a level in reading readiness similar to that of their peers in the Regular English group.

With regard to scores in letter recognition, the difference may also be due to the treatment given the groups; however, it may

6. In terms of mean scores obtained on the Gates MacGinitie Readiness Skills Test, the reading readiness level of girls was significantly higher than that of boys. The boys in the Immersion French group did somewhat better than the boys in the Regular English group.

7. In terms of mean scores on the Gates MacGinitie Readiness Skills Test, children who came from homes where French was spoken scored lower than those who came from homes where no French was spoken. The difference may have implications for the progress of the students.

II. CONCLUSIONS

Based upon the statistical analysis of the data obtained from the instruments used, the following conclusions were drawn:

1. The children in the Immersion French group appear to have attained a level in reading readiness similar to that of their peers in the Regular English group.

With regard to scores in letter recognition, the difference may also be due to the treatment given the groups; however, it may

be due to the variation in conditions existing within the two groups. The major differences present in the two groups may be summarized as follows:

Immersion French	Regular English
1. Teacher not trained in primary teaching methods.	1. Teacher trained in primary teaching methods.
2. Teacher had no previous experience with primary school children.	2. Teacher experienced with primary school children.
3. Students involved in pre-reading only.	3. Students introduced to reading.
4. All visual aids used for letter recognition were commercially produced.	4. Supplementary visual aids for letter recognition were prepared by the teacher.
5. Equal number of boys and girls.	5. Higher proportion of girls.

With regard to total reading readiness as measured by the Gates MacGinitie Readiness Skills Test, word recognition is not included since it necessarily involves reading and not reading readiness.

As mentioned earlier, girls performed significantly better than boys in both treatment groups. The higher proportion of girls in the Regular English group may have contributed to the difference in the mean scores of the two groups. Considering this, as well as

such factors as the difference in teachers' training and experience, the use of supplementary teacher-prepared visual aids, and the introduction of reading in the Regular English group, it would be expected that the scores of the two groups would differ somewhat. Considering all of these factors, the Immersion French group appears to have compared favorably with the Regular English group with respect to reading readiness.

2. With regard to receptive vocabulary development as measured by the Peabody Picture Vocabulary Test, the children in the French Immersion group performed similarly to their peers in the Regular English group. The range of scores was somewhat greater for the Immersion French group than for the Regular English group.

3. With regard to English language comprehension as measured by the Assessment of Children's Language Comprehension, children in the Immersion French group compare favorably with their peers in the Regular English group; however, some interesting questions arise with regard to the range of scores for the Immersion French group in the area of three-

component-comprehension.

4. With regard to scores obtained on the Ravens Progressive Matrices and those obtained on the Gates MacGinitie Readiness Skills Test, a correlation was found to exist between the IQ level of the student and his/her reading readiness level. Students in the lower IQ levels in the Immersion French group did not perform as well as their peers in the Regular English group with regard to reading readiness.

5. With regard to the relationship between occupation of parents and reading readiness level of the child, there was a significant relationship for the one student representing the professional category, but no such relationship for the other occupations selected. The other occupational levels considered were very similar.

6. In both the Immersion French group and the Regular English group the girls were superior to the boys in terms of mean scores obtained on the Gates MacGinitie Readiness Skills Test. Also interesting is the fact that the boys in the Immersion French group performed better than the boys in the

Regular English group. This may be attributed to the treatment or to factors such as IQ.

7. In terms of reading readiness as measured by the Gates MacGinitie Readiness Skills Test, children who came from homes where French was spoken scored lower than those who came from homes where no French was spoken. In the Immersion French group, children who came from homes where French was spoken scored considerably lower. This may be attributed to treatment, but other factors such as parental attitude may have contributed.

In conclusion, the Immersion French group generally performed similarly to the Regular English group. The differences which occurred may be attributable to a negative effect of early-grade immersion; however, they may also be attributed to the variation of conditions within the groups.

In addition to comparing favorably with their Regular English counterparts in terms of development of English language receptive skills and reading readiness, the Immersion French group made great progress in the area of French language acquisition. " . . . les élèves ont beaucoup progressé en atteignant un niveau de comprehension française très proche de la moyen nationale."[2]

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[2]Marie Gleason, "Un programme d'immersion à Terre-Neuve," University Affairs, XVIII (January 1977), p. 6.

III. RECOMMENDATIONS

Based upon the findings and the conclusions drawn from the study, the following recommendations are suggested:

1. Since the two groups performed similarly in terms of reading readiness and receptive language skills, it is recommended that the early-grade immersion program be continued.
2. It is recommended that a more detailed analysis be made of program materials to determine if there are any large discrepancies which might affect achievement of students with regard to development of English language receptive skills and reading readiness.
3. It is recommended that further research be carried out to determine whether or not the training and experience of the teachers have any effect on the development of the students' English language receptive skills and reading readiness.
4. The teachers of both groups should work in consultation so as to insure that the aims and objectives of the Kindergarten year are similar for both groups.
5. It is recommended that instruments be obtained for evaluating the expressive phase

of English language development in both treatment groups.

6. Since participation in the Immersion French program was voluntary, it is recommended that further research be carried out so as to determine the effect of the motivational characteristics of voluntary enrolment on achievement in English language receptive skills and reading readiness.

7. Since boys in the Immersion French group scored higher than boys in the Regular English group in terms of mean scores on the Gates MacGinitie Readiness Skills Test, it is recommended that

   (a) further research be carried out with regard to the effects of early-grade immersion in French on achievement in English for boys;

   (b) since participation in the Immersion French program was voluntary, further research be carried out with regard to the effects of selection and the cognitive ability of boys in the Immersion French group on their achievement in English language receptive skills and reading readiness.

8. Since a wide range of scores occurred in the Immersion French group in several areas of English language receptive skill development, it is recommended that a more detailed analysis of individual scores be done to see to what extent the greater variation can be attributed to the treatment.

9. Since 30 per cent of the total population (Immersion French and Regular English) scored below the total weighted score of 60 (readiness percentile score of 50), it is recommended that further research be carried out as to the desirability of introducing reading or extending the pre-reading phase for such children in each group.

10. It is recommended that further research be carried out with regard to the relationship between achievement in English and language spoken in the home.

11. It is recommended that an early-grade immersion program be established in an urban area of the province so as to provide a basis for comparison with regard to

(a) rural area versus urban area;

(b) a wider socio-economic range.

APPENDIX A

YEAR-END EVALUATION (RAW SCORES)

REGULAR ENGLISH GROUP

PORT AU PORT IMMERSION PROJECT (1975-76)

REGULAR ENGLISH GROUP

			Gates MacGinitie Readiness Skills Test								
Student	Sex	L.C	A.D	V.D	F.D	L.R	V-M.C	A.B	Total	W	W.R
1	2	12	20	18	13	18	12	12	82		14
2	2	7	18	21	5	13	11	12	61		9
3	2	17	16	20	11	16	15	11	70		13
4	2	8	19	20	12	16	12	11	70		9
5	2	12	20	21	8	18	20	6	74		13
6	1	12	18	18	12	18	10	14	77		19
7	2	9	21	21	8	18	21	12	79		14
8	1	7	12	11	2	14	7	9	47		15
9	2	5	14	8	6	17	17	10	54		8
10	2	13	19	17	10	18	19	13	78		19
11	2	12	16	15	5	17	18	11	64		18
12	1	11	18	18	11	16	12	14	70		19
13	1	7	11	5	4	9	6	7	39		8
14	1	9	16	8	8	17	10	12	57		18
15	2	12	19	18	13	18	11	14	82		22
16	2	7	11	13	6	14	17	6	50		8
17	2	9	12	11	3	12	20	10	50		9
18	2	5	21	18	7	17	8	11	67		19
19	1	6	12	13	8	16	6	8	49		9
20	1	5	21	16	7	17	7	7	62		5
21	1	14	20	11	8	18	11	14	73		16
22	2	9	13	5	7	17	14	14	57		16
23	2	13	16	17	10	18	13	12	70		16
24	2	16	18	21	12	18	17	14	83		22
25	1	7	10	8	5	8	6	5	37		10
26	2	13	20	20	14	18	14	14	88		19
27	1	10	20	22	12	18	12	12	82		14

(Sex: Boys = 1, Girls = 2)

PORT AU PORT IMMERSION PROJECT (1975-76)

REGULAR ENGLISH GROUP

Student	Assessment of Children's Language Comprehension Vocab.	B	C	D	Ravens PM	PPVT	Home Lang.
1	50	10	10	10	17	46	1
2	48	10	10	9	16	40	1
3	48	9	10	9	8	37	1
4	50	10	9	9	13	48	1
5	50	10	10	10	14	47	1
6	50	10	9	9	20	50	2
7	50	10	10	10	18	54	1
8	45	5	8	4	15	39	1
9	46	9	9	9	9	48	1
10	47	10	10	10	14	42	1
11	48	7	8	7	10	46	1
12	47	10	7	6	16	43	1
13	49	8	7	6	14	28	1
14	48	10	8	7	12	46	1
15	50	10	10	10	20	49	1
16	46	9	7	5	18	31	1
17	50	9	9	7	10	40	2
18	49	10	9	8	17	52	2
19	49	9	8	8	13	52	2
20	49	9	8	8	12	50	1
21	50	10	10	8	10	51	1
22	47	10	6	8	13	41	2
23	46	10	10	9	13	44	2
24	48	9	10	9	16	48	2
25	42	8	7	6	18	38	1
26	47	10	9	9	19	50	1
27	50	10	10	10	19	54	1

(Language: No French spoken = 1, Some French spoken = 2).

APPENDIX B

YEAR-END EVALUATION (RAW SCORES)

IMMERSION FRENCH GROUP

PORT AU PORT IMMERSION PROJECT (1975-76)

IMMERSION FRENCH GROUP

		Gates MacGinitie Readiness Skills Test								
Student	Sex	L.C	A.D	V.D	F.D	L.R	V-M.C	A.B	Total	W. W.R
1	1	10	13	6	4	12	12	6	43	8
2	2	9	20	10	11	14	15	10	67	8
3	2	5	18	15	8	16	11	12	60	11
4	2	11	18	14	13	16	18	10	72	8
5	1	10	11	8	5	6	18	6	44	13
6	2	13	18	13	12	16	15	14	71	9
7	2	7	12	10	6	5	18	9	46	10
8	2	4	10	4	3	7	10	6	33	8
9	2	12	17	20	12	17	16	13	75	8
10	2	10	19	16	10	9	14	10	62	16
11	2	16	20	19	13	6	9	14	73	7
12	1	12	19	13	12	14	18	13	74	8
13	2	12	20	20	13	14	18	11	79	10
14	1	15	21	24	10	18	18	14	92	24
15	1	12	17	11	9	11	16	13	59	10
16	1	9	15	7	8	8	3	5	40	14
17	1	10	15	11	6	8	16	9	49	4
18	2	8	17	24	9	17	11	11	69	8
19	1	9	15	7	5	11	14	9	47	8
20	1	11	19	15	10	15	19	14	72	6
21	1	7	16	11	2	11	16	5	49	10
22	1	9	19	20	11	13	16	12	72	7
23	2	7	19	21	7	13	10	10	60	12
24	1	7	15	18	12	12	5	11	59	10
25	1	5	12	21	5	8	9	6	45	8
26	1	12	18	20	11	12	13	13	67	6
27	2	11	21	19	13	18	15	14	81	21
28	2	12	21	21	13	18	18	14	90	11

(Sex: Boys = 1, Girls = 2)

PORT AU PORT IMMERSION PROJECT (1975-76)

IMMERSION FRENCH GROUP

Student	Assessment of Children's Language Comprehension Vocab.	B	C	D	Ravens PM	PPVT	Home Lang.
1	48	7	6	7	9	41	1
2	50	9	9	9	14	41	1
3	46	9	8	9	18	46	1
4	50	9	10	10	14	42	1
5	39	5	5	4	invalid	14	1
6	50	9	9	6	9	45	1
7	43	9	6	9	8	16	1
8	46	6	6	5	10	30	1
9	50	10	10	9	19	48	1
10	50	9	9	9	11	41	1
11	48	10	10	8	20	53	2
12	47	10	9	10	18	46	1
13	50	10	10	9	17	45	1
14	50	10	10	10	30	55	1
15	47	8	9	5	15	45	1
16	46	7	5	4	10	40	2
17	48	10	9	8	13	44	2
18	50	10	10	9	16	49	1
19	48	10	8	9	18	46	2
20	45	9	8	7	16	51	2
21	46	9	8	6	13	43	2
22	50	10	10	10	18	49	1
23	45	10	7	6	21	46	2
24	50	10	10	9	16	53	1
25	45	7	4	7	12	40	2
26	50	10	9	9	14	52	1
27	50	10	10	10	19	55	1
28	50	9	8	9	18	57	1

(Language: No French = 1, Some French = 2)

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