

THE INFORMAL ACQUISITION OF VOCABULARY IN ENGLISH
AS A SECOND LANGUAGE

Brian Michael Smith

A Thesis
in
The Faculty
of
Arts and Science

Presented in Partial Fulfillment of the Requirements
for the degree of Master of Arts (Educational Technology) at
Concordia University
Montréal, Québec, Canada

April 1980

© Brian Michael Smith, 1980

Abstract

The Informal Acquisition of Vocabulary In English as a Second Language

Brian Michael Smith

In this report I shall review the literature pertinent to three factors: formal learning, informal learning and informal acquisition. I shall then discuss the role of two of these factors, formal learning and informal learning, in second-language learning.

However, the idea that informal acquisition, however mediated, may precede formal learning and should thus be taken into account in syllabus design, has so far had little currency. A description of two research projects on the informal acquisition of ESL (English as a Second-Language) by Primary Grade children in Québec is given. An analysis of the test results correlated with the questionnaire which the children completed, follows.

The study will provide evidence to support the contention that many Primary Grade children commence formal learning of ESL after having acquired, informally, a considerable amount of English and that the present approach to syllabus design disregards both the substance and the form of this informally acquired knowledge, to the pedagogic detriment of the child.

I am confident that this research will prove a useful contribution to syllabus design in the implementation of more effective ESL programmes at the Primary level.

Table of Contents

	<u>Page No.</u>
Abstract	i
List of Figures	ii
List of Tables	iii
List of Appendices	iv
Chapter One: Introduction	1
Chapter Two: Formal and Informal Learning and Informal Acquisition	8
Learning	9
Formal Learning	9
Informal Learning	9
Informal Acquisition	11
Formal Second-Language Learning	11
Informal Learning of a Second Language	15
Informal Acquisition of a Second Language	20
Chapter Three: Two Research Projects on the Informal Acquisition of ESL	24
First Research Project	25
Description of the Test	25
Test Procedure	26
Compilation of the Replies	28
Second Research Project	30
The Hypotheses	30
The Aim	31
Operational Hypotheses	31
Operational Definitions	31
Test Subjects	32
Materials	34
Test Procedure	36
The Questionnaire	37
Second Research Project: Shortcomings	38

	<u>Page No.</u>
Chapter Four: Results	39
Compilation of the Results	40
Analysis and Discussion of the Results	43
General Observations	43
Specific Observations	49
A Comparison	69
Chapter Five: Conclusions and Recommendations	74
Conclusions	75
Recommendations for Further Research	78
References	81

List of Figures

<u>Figure No.</u>		<u>Page No.</u>
4.1	Grouped Scores on 2nd Test Variable 08: Sex	47
4.2	Grouped Scores for both Tests Variable 142. Frequency of Mother Speaking English	53
4.3	Grouped Scores for both Tests Variable 146. Language Spoken with Friends	55
4.4	Grouped Scores for both Tests Variable 147. Opportunity to Speak English	57
4.5	Grouped Scores for both Tests Variable 149. Ability of S to Express Himself in English	60
4.6	Grouped Scores on 1st Test Variable 150. Ability of S to Read English	62
4.7	Grouped Scores on both Tests Variable 17.3 Hours/Week Spent Watching English TV	67
4.8	Grouped Scores on both Tests Variable 173. Hours/Week Spent Watching English TV	68

List of Tables

<u>Table No.</u>		<u>Page No.</u>
3.1	Pupil/Set Distribution	28
3.2	Test Subjects: Participating Schools.	33
3.3	Test Subjects: Demographic Information.	34
4.1	Variables by Number and Description.	41
4.2	Summary of Test Results.	43
4.3	Test Score Correlated with Hours/Week Spent Watching English TV.	66
4.4	Two Subjects Compared.	70

List of Appendices

Appendix No.

Page No.

First Research Project:

1. List of Items in top 60% of Rank/Frequency Lists in Alphabetical Order by theme. 90

Second Research Project:

2. Sample Page from Test Booklet - Test 1. 91
3. Sample Projectual - Test 2. 92
4. Test Items in Order of Presentation 93
5. Questionnaire. 94
6. Resume of Questionnaire Replies 97
7. Statistics from SPSS (Crosstabs). 100
for three sets of scores on each variable
8. Rank-List of Aggregate Scores, all pupils (Non-cognates and non-lexical borrowings have been off-set). 103
9. Rank-List of Correct Results - Test 1 by School Board/School. 104
10. Rank-List of Correct Results - Test 2 by School Board/School. 105
11. Rank-List of Items Known in Both Modes of Presentation, by School Board/School. 106
12. Rank-List of Aggregate Scores, all pupils 107
13. Rank-List of Non-Cognates and Non-Lexical-Borrowings, Test 1. 108
14. Rank-List of Non-Cognates and Non-Lexical-Borrowings, Test 2. 109

I. Introduction

In 1977-78 in the Province of Quebec, education accounted for 30.3% of the budget. Translated into dollars, this figure equals \$3.492 billion. Over \$2 billion, or 17.6% of the budget, was expended in the Primary and Secondary levels of Public Education.¹ Education, as Skinner observed (1965), is big business.

Like any other business, education is subject to cost analysis for it is legitimate to ask whether there is an acceptable return on the financial investment. Cost analysis involves the definition of objectives, the definition of strategies to attain the objectives, the determination of resources required and the conversion of these into dollar amounts. Strevens (1969) raised the point in an article on the need for cost-effectiveness studies in the teaching of foreign languages. Such a study, he contends, would aim to estimate the efficacy of existing resources and examine any other means by which productivity per student-cost could be improved. One observer, Wilkinson (1972) claims that education does not know how to precisely describe its output or what it costs to produce this output.

Second- and foreign-language learning continue to be the object of much research and they may well prove to be areas where a greater level of cost-effectiveness is now possible.

The controversy over the merits of different teaching approaches, e.g. the audio-lingual approach, which tended to dominate the 50's and early 60's and which stimulated research in contrastive and later, error analysis,

¹ Gouvernement du Québec, Ministère des Finances, Direction des Communications, Budget par Programmes, 1977-78.

gave way to first- and second-language acquisition studies (Dulay and Burt, 1973, 1974; Wagner-Gough and Hatch, 1975; Fathman, 1975; Chomsky, C. 1969). These, in turn, have led to promising research in classroom interaction (Chaudron, 1977; Long, 1977; Cathcart and Olsen, 1976; Allwright, 1975) and, more recently, to the development of special purpose language programs. Language courses based on the learner's second-language needs now command the attention of many teachers and syllabus designers, e.g., Munby (1978). This concern with specific groups of learners and with the individual-as-a-learner, reflects the current trend in second-language instruction. The focus has shifted more and more to the learner.

Certain educators foresaw this evolution quite some time ago. W.F. Mackey's comprehensive study, *Language Teaching Analysis* (1965) examined the three-way interaction within the second-language classroom, the teacher, the student, the program, and the effect of society's influence from outside. He stressed the need for relevant language programs with sensible and attainable objectives. Dewey (1954) and Gagne (1974) both stressed the need to consider first the learner and the experience that he has. Skinner (1965, op.cit) expressed the same priority: "the teacher begins with whatever behavior the student brings to the instructional situation." (Two annotated bibliographies which trace the more recent developments in linguistics and applied linguistics are (1) Abrahamsen 1977, and (2) Goldstein, 1975).

In recent years, the European Economic Community (EEC) has had to face an education problem with implications which are linguistic, pedagogic and financial. The steps taken to resolve the problem provide a striking example of the shift in emphasis in second-language instruction.

More than two million immigrant children within the EEC are under the age of 18, and because most are of school age, they must be fitted into the different school systems. One of the major obstacles is language. It has been found (CCE, 1975) that if a migrant child can attend nursery school, integration is natural and the new language can be learned within a year. For the older child, reception classes with specialized teachers and intensive teaching methods teach the new language as quickly as possible, and within one or two years he may switch to normal classes.

The EEC has considered a number of concrete suggestions for action in the field of education, one of them being the provision of special educational material for migrant children. In addition, Member States have been asked to agree on a number of fundamental principles, the first one being "that the migrant child is entitled to education tailored to his needs."

The shift of emphasis to the role of the learner, has re-kindled interest in the pertinence and appropriateness of his second-language utterances, his "communicative competence." The notion of communicative competence as opposed to linguistic competence, i.e., grammatical, phonological and lexical accuracy, derives from studies in socio-linguistics, particularly Hymes (1967, 1971). The development of the Functional/Notional approach to syllabus design is more recent, Wilkins (1972, 1976). This approach aims for linguistic control over certain specified language functions, e.g., identifying, asking, expressing agreement, requesting assistance, etc., which are deemed appropriate for the particular group of second-language learners. The approach is quite different from that of a syllabus based on the regular and linear introduction of discrete grammatical structures which, once mastered, can be applied when and as necessary, to a given second-language situation.

4

One recent study (Banko and Smith, 1979) prepared for the Ministère de l'Éducation du Québec (M.E.Q.) attempted to specify the opportunities which Secondary I-III students in the Province have to use ESL, as well as the situations in which some command of ESL will be required. The study is to form the basis of a new ESL program for the Secondary I-III levels.

Another study (Malenfant-Loiselle and Jones, 1978), also for the MEQ., attempted to specify language needs for Primary Grade ESL students. In the provisional program based on the study (Malenfant-Loiselle, 1980), an attempt was made to prepare appropriate objectives for this grade level. For example, (p.18) "L'objectif global du programme: A la fin de l'école primaire, l'élève francophone devrait être capable d'utiliser la langue anglaise afin de communiquer dans des situations correspondant à des besoins et à des intérêts propres à son âge."

The "objectifs généraux" of the program are identical to the general functions proposed by VanEk (1976) and it is debatable whether some of them are, or can be considered, appropriate for this level. For example, (p. 25) "l'élève sera capable de s'exprimer dans le domaine des attitudes intellectuelles, ... des attitudes morales." A great deal more refinement and precision would seem necessary before the program becomes pedagogically sound.

These recent attempts to improve syllabus design are long overdue and it can be argued, with some justification, that the official approach to ESL instruction in the Province of Québec is wasteful of time and money and is, in other ways, inefficient. This observation is particularly valid with respect to ESL instruction at the Primary level of Public instruction. There has still been no attempt to prepare a program which reflects the actual socio-cultural, linguistic and geographic contexts

of Québec. (It should be noted that the majority of second-language texts authorized for use in the Public School System are of American or British origin); there are no realistic terminal objectives based on the results of standardized tests or on the summative evaluation of previous programs; there is no provision made for faster students; there has been no attempt to introduce a system of continual experimentation leading to greater effectiveness in teaching as well as in learning. Piaget's (1970) observation concerning one aspect of first language instruction (the teaching of orthography), is applicable, in general, to ESL instruction in Québec:

"It is scarcely believable that in a field so accessible to experiment that the pedagogue has not organized sustained and methodical experiments, but has remained content to decide upon (such) questions on the basis of opinions whose 'common-sense' in fact conceals more affectivity than effective reasoning.

In fact, all we have at our disposal as a basis for judging the productivity of our scholastic methods are the results of end-of-school examinations and, to some extent, certain competitive examinations."

At the Primary level, as far as the teaching and learning of ESL is concerned, we cannot even claim end-of-school examination results as being indicators of the strengths or weaknesses of the ESL programs. Where such examinations are given, they appear to have no significance beyond the classroom. It is still standard practice to base ESL instruction at the Secondary level on the assumption that incoming students will have acquired no ESL competence during the Primary phase and this despite the fact that two, in some cases three, years of ESL instruction are given at the Primary level (approximately 60 hours per year).

Thus, for a long time there has been a minimal level of expectation regarding pupil achievement in ESL at the Primary level, even in those

areas where the potential for higher achievement exists.

Some School Boards, recognizing the limitations of the existing ESL program at the Primary level, have attempted a more ambitious program at that level. This has usually been the result of pressure from parents who "feel" that children in a particular school or area have a greater ESL learning potential because of circumstances. The content of the "richer" program thus devised has invariably been based on an eclectic choice from commercially available material, some of which had been prepared for first-language instruction. To the best of my knowledge, there has been no attempt to replace the intuitive approach with an empirical one. I know of no instance where an ESL program has been prepared specifically for a particular School Board with the confidence that it is an appropriate pedagogic instrument for that School Board.

A reluctance on the part of administrators and teachers to determine whether or not their Primary ESL program satisfies the learning potential of the pupils leads to a decrease in pedagogic efficacy. It has more serious consequences when the same pupils move on to the Secondary I level and, in effect, start the learning of ESL all over again. Motivation and interest are severely tried, the teacher's task from the point-of-view of discipline is made increasingly more difficult and levels of student achievement are compromised.

It would seem intuitively evident that the preparation of a relevant and appropriate ESL program for the Primary level, with objectives which are realistic and attainable and with a close continuation at the Secondary level would be pedagogically sound and acceptably cost-effective. In order to determine what objectives are realistic and attainable, it is necessary to analyze not only the learner's needs but also his capacity

as well as his already acquired second-language knowledge. It is thus necessary, as a first step, to test the assumption--one of the tenets of the Primary ESL program--that Primary students begin the formal study of ESL with zero knowledge of the language, much as if they were to undertake the learning of Latin or Greek. What if such is not the case? What if circumstances of geography, media exposure, contact with English speakers, etc., have allowed ESL students in particular areas to acquire some knowledge of ESL? Surely, then, any arguments justifying an ESL program predicated on zero previous knowledge, are no longer tenable.

The present study was motivated by the following premiss: it is logical to expect Primary ESL students in certain areas of the Province to have acquired some knowledge of English before they commence formal instruction in ESL. Intuitively, one thinks of those areas with access to English T.V. and concentrations of English-speaking people as being more likely to provide opportunities for what I shall call the informal acquisition of English as a Second language. (The concept of informal acquisition will be discussed in the next chapter.)

If some knowledge of, or competence in, ESL can be established and measured before formal instruction begins, the syllabus designer will be provided with a more appropriate orientation for the ESL program under preparation. The aim is to make the Primary ESL program more effective. One way to enhance efficacy is to recognize and capitalize on the role of informal acquisition in second-language learning.

The notions of formal and informal learning, and informal acquisition must now be considered in more depth.

Chapter Two

Formal and Informal Learning

and

Informal Acquisition

Learning is here defined as a deliberate and purposive attempt to modify behaviour in which the learner voluntarily participates.

Formal learning implies reciprocity and requires the intervention of a teacher (model or set of didactic material, e.g., a book, tape or program), who interacts with the learner with the intention of modifying the latter's behaviour. Some obvious examples of formal learning are the classroom, the language laboratory, the student working his way through a textbook or program in which the correct answers to given problems are provided. Other examples would include a driving lesson in which the instructor's directives are followed (and remarks heeded), or a skating lesson in which the student attempts to duplicate the model's performance.

Informal learning, on the other hand, is uni-directional. It is deliberate and purposive on the part of the learner, only. The model, if present, may, but is not required to, interact with the learner. The informal learning process is thus one of observation or non-directed practice. One example would be an apprentice watching a craftsman; another example would be a student practising a musical instrument.

D'Anglejan (1978) cites several examples of informal learning and includes Mead's (1964) observation that in informal learning the adult, or model, rarely articulates the set of rules underlying a particular practice but instead provides a demonstration of it. Learning takes place in real situations where the meaning is evident from the context. In general, there is no need to articulate the principles although opportunities are provided for the learner to gain feed-back about the appropriateness of his or her performance. In those societies in which little formal schooling is available a great deal of complex learning takes place. Consider, for example, hunting, fishing and survival skills among Indian or Inuit.

Several studies have underlined the social aspect of learning. Scribner and Cole (1973) point to a common characteristic of formal (institutional) and informal learning contexts. In both, individuals transmit knowledge and skills with a high positive social value. Learning, i.e., successful learning, is closely linked to the social status of the persons acting as teachers. The subject matter, per se, appears to be a less critical feature of informal learning.

Informal learning, according to Ingle (1974) is relatively unorganized and unsystematic. It is often accomplished through learning-by-doing, being instructed or inspired by others to perform specific tasks, through association with peers and fellow-workers, or simply by participating in a working environment or in the affairs of community life.

A similar view regarding informal education is expressed by Adams (1972) according to whom, people learn in a non-systematic manner from generally unstructured exposure to cultural facilities, social institutions, political processes, personal media and the mass media. (This view, in

fact, straddles two clearly separate concepts, informal learning and informal acquisition. See also Dreher, 1974, whose definition of informal learning: "learning assimilated without the child's awareness," corresponds to my definition of informal acquisition.)

Informal acquisition implies no overt set to learn, i.e. an absence of deliberate or voluntary attention on the part of the learner. It is thus passive and incidental to another activity. For example, a child practising writing may learn how to spell certain words, or one who is reading may acquire some knowledge of syntax or morphology.

Much of what is taught through the mass media, particularly television, involves informal acquisition since the material is almost always unrelated to immediate needs or situations. In Brown's (1976) view, it is reasonable to assume that because television has easily interpreted, naturalistic, verbal and visual images which command so much of the child's attention, it is likely to be the most influential of the mass media.

Formal Second-Language Learning

Formal learning of a second language has traditionally involved within the classroom, a three-way interaction: the teacher, the student, the material (Mackey, 1965, op.cit.). Of three variables, the one most readily manipulable is the material, hence the development of well-recognized methodological approaches, e.g. the grammar-translation approach, the audio-lingual approach, the audio-visual-structuro-global approach, the functional-notional approach.

In addition to the content, the teaching strategies associated with the different methodologies are frequently pre-determined and are often

followed to the letter. (This observation is particularly valid with respect to the teaching of ESL in the Province of Québec where an unquestioning adherence to the "method" and to the instructions in the Teacher's Guide is to be regretted.) Most second-language students in a formal learning situation listen to the teacher as he introduces and explains specific structures and vocabulary; they then repeat and practice the structures, sometimes using them in a different context and often attempting grammatical exercises which may necessitate a transformation of the structures. A reading text, artfully contrived to re-present the structures and vocabulary introduced in the lesson, completes the unit. (It should be noted that at the Primary level of ESL instruction in Québec, the official emphasis is on comprehension and speaking with very little reading and no writing.) There is often an explicit requirement to memorize parts of the lesson, e.g. the introductory dialogue, and the most common stated aim is the students' automatic control of the grammatical structures. In some approaches, for example, the audio-visual approach, the teacher does not explain the grammar and vocabulary but attempts to have the student grasp their significance inductively through an elaborate questioning strategy.

One serious criticism of formal second-language teaching and learning is that the content, the order of presentation of the content and the teaching strategies allow little or no variation. Most second-language manuals are prescriptive. In some instances there have been claims that the selection resulted from empirical study¹; in others, the selection of

¹ Le français fondamental. Publication de l'Institut National de Recherche et de Documentation Pédagogiques, Paris, 1959. Voix et Images de France, an A-V approach, is based on this.

structures and particularly of vocabulary, seems to be somewhat arbitrary. A number of studies have criticized the inappropriateness of much second-language content material, e.g., Macnamara, (1973), Savignon (1972), pointing out how little it approaches genuine language exchange. The traditional grading of structures has also been questioned. Larsen (1974) reached the conclusion that the best criteria for sequencing structures should be utility and frequency of occurrence so that those structures needed the most for communication would be learned first. Hauptman (1971) claims that for children it is unnecessary to sequence content materials according to the linguistic difficulty of grammatical and lexical forms; sequencing by situations is more beneficial. Roulet (1975) in a paper presented at a UNESCO-sponsored meeting discusses the diversification of methods and techniques for teaching foreign languages. He questions whether it is necessary or desirable to proceed to a very strict selection of the linguistic content of a course. In his opinion, any selection should reflect the needs and interests of the learners. He also found that students are bored by structural-based approaches to language instruction.

Krashen and Seliger (1975) made a feature-type comparison of language teaching methods known to be 'successful' in helping adults learn language. They found the universal and presumably crucial ingredients of formal instruction to be, (1) the isolation of rules and lexical items of the second language and (2) the possibility of error detection and correction.

Other studies on formal learning have focused on the attributes of the successful teacher (Bennett, 1976; Brown, 1975; Turney and Clift, 1973; Flanders, 1970; Berliner, 1968; Gage, 1963; Ryan, 1960). The successful or effective teacher is well-organized, business-like, enthusiastic; he

uses the pupils' ideas, presents concepts clearly and has a skillful questioning technique which allows the pupils to participate more fully in the learning process. For the successful second-language teacher, other attributes including competence in the second-language, would also be required.

Although other studies of second-language learning have isolated the importance of specific variables, e.g., motivation, age, aptitude, etc., Travers (1966) has pointed out that in education in general, there is still too much intuition and too little empirical research. Atkinson (1972) is of a similar opinion. The goal of a theory of instruction, he contends, is to prescribe the most effective methods for acquiring new information, whether in the form of higher order concepts or rote facts. The development of a theory of instruction will influence research on learning. It is a matter of some speculation whether a comprehensive theory of instruction or indeed a comprehensive theory of second-language instruction is possible. Hilgard (1963) warned that purely cognitive theories of learning will be rejected unless a role is assigned to affectivity, while Schumann (1975), and Curran (1961) claim that affective factors play a major role in facilitating second-language acquisition in children (see also Guiora et al, 1972).

The impetus given by educational technology to the rational planning of learning systems has yet to make itself felt to any extent in the field of second-language instruction in North America. This may change with the sensible implementation of the functional-notional approach to second-language instruction. The approach was originally developed in Europe. The author of "The Threshold Level" (VanEk, 1975), the first comprehensive

attempt to justify and prepare content material using the functional-notional approach, clarifies the rationale behind it:

"We have to analyze the operational needs of the learners and translate them into a reasonable set of learning objectives. On the basis of what the learner already knows, we can then identify the set of learning tasks he has to face. We have to make an assessment of the resources, human and material, that we can place at the learner's disposal and ascribe to each its appropriate role in an often complex teaching/learning system... Above all, teachers and planners need to know whether the system they are operating works, where its strengths and weaknesses lie, so that the strengths can be exploited further and the weaknesses overcome. Of course, the system must be flexible enough to make it possible to learn from experience."

VanEk goes on to state that this must be done in order to render our teaching more efficient. Thus, three key factors; planning, the students' previously acquired knowledge and efficiency, are now considered indispensable in successful syllabus planning and would be integral parts of successful instructional methods. It is worthwhile determining if informal learning can be incorporated into successful syllabus planning.

Informal Learning of a Second-Language

The social aspect of learning has already been mentioned. The learner in the informal situation attends not only because of "empathy and identification with the teacher" (Mead, 1964, op. cit.) but also, and perhaps more importantly, because the skill or knowledge being acquired is essential, necessary or intrinsically worthwhile.

In informal situations, the second-language learner is almost exclusively responsible for whatever progress accrues from his interaction with the informal environment. Besides being self-motivating, he has to take advantage of the learning opportunities offered by the informal learning circumstances, some circumstances being more favourable than others.

There is impressive evidence that the 'natural' or 'naturalistic' (the terms which seem to be most used) setting favours second-language acquisition at all age levels and the critical activities appear to be contact with native-speakers and participation in second-language activities.

Many studies on the informal learning of second-language skills involve immigrants or migrant workers and their families. D'Anglejan (1978, op.cit.) refers to a study on the informal acquisition of German syntax by Spanish and Italian migrant workers (Dittmar and Klein, 1977) and to one on the informal learning of French by migrant workers from Portugal (Lagarde and Vigier, 1974). Ryu's (1978) study of Korean adult immigrants in the Los Angeles area indicates that the media, particularly television and print, play an important role in the "socialization" process, i.e., in the acquisition of English.

Laylin (1977) describes an interesting experiment in second-language instruction which involved formal and informal learning situations. The students were adult, non-native-English speaking workers in the garment industry whose formal instruction in ESL was one hour per day, the first hour of an eight-hour shift. During that hour, the instructor anticipated and focused on some of the situations and verbal exchanges which would most probably occur during the day, so that everything taught was entirely relevant to the learners' working environment. During the rest of the day, the students were able to practice the new forms and vocabulary with co-workers and especially, supervisors, who had been briefed on their role as models.

One article (Krashen and Seliger, 1975, op.cit.) suggests that motivated adult students of a second language are able to provide themselves with

the essential ingredients of formal instruction without even attending class, the information required being provided by friends, informants, etc. My own teaching experience leads me to conclude that most adults are more comfortable in a "directed" learning environment.

Roberts (1976) discusses an adult case study and describes the most beneficial division of time between formal and informal learning that enabled him to learn Chibemba, a language of Zambia. He advocates that only 20% of the time be spent in formal instruction with the rest of the time being spent in a 'natural' setting talking with native Zambians. It is worthwhile underlining the deliberate effort that Roberts made to exploit the informal learning situations.

Several studies deal with children in informal learning situations. Hale and Budar's study (1970) of immigrant children to Hawaii indicates that for High School students, informal environments are more effective than the classroom for second-language learning. They recommend that the immigrant students' total in-school exposure to the English language and culture be maximized and that the number of formal ESL classes be drastically reduced. This point of view coincides closely with present thinking on "immersion" classes.

In another study Dreher (1974, op.cit.) cites the case of eight Spanish-speaking children, aged 11, who made "significant progress in understanding English" through the simple fact of being in an international summer camp where English was the official language. Merely being surrounded by words may induce learning in certain children according to O'Rourke (1974), who terms the effect "endosmotic".

Chun (1979) made a study of thirteen English-speaking children attending French schools in and around Paris. Their constant interaction

with monolingual native-speaking peers in a French environment is suggested as the reason for their progress in pronunciation and vocabulary.

A case study of a child's second-language acquisition is offered by Savignon (1974). Her son Daniel, aged 7, had been raised in the U.S. and had never been obliged to speak French at home even though his father is a native Frenchman. The child began to speak French during a sustained residence in France during the summer of 1972. Savignon declares that no special effort had been made by the family to speak or to teach French and it was the comments of shop-keepers and relatives regarding how well Daniel spoke the language that aroused her curiosity and prompted her to record the conversation which she had, in French, with her son.

Savignon comments on the wide range of comprehension, as compared to the level of production and on the semantic richness of Daniel's French as compared with its structural simplicity. She makes several recommendations, e.g.:

- 1) We (the teachers of French) should provide for semantic richness in the early stages of instruction.
- 2) We should provide for lots and lots of listening experiences and for meaningful contexts.

These recommendations echo those of several other researchers, e.g. Corder (1977), Krashen (1976), Wagner-Gough and Hatch (1975, op.cit.) and Macnamara (1973, op.cit.) regarding the necessity for adequate input which is both realistic and appropriate.

Savignon's observations regarding the range of her son's comprehension of French compared to his level of production, points to the major advantage which characterizes informal learning: the learner has the opportunity to

hear, process and comprehend substantial amounts of primary linguistic data without having to produce any until he is ready to make the attempt. There is no obligation to speak as there is in most formal learning situations. The primary role of the model in the informal learning situation is to supply "input", not to monitor "output".

Two authors (Winitz and Reeds, 1973) regard the sequence of development --comprehension first, production second--as a functional property of the human brain which should not be violated in language instruction. They advocate that foreign language instruction should discourage speaking until a high degree of comprehension is achieved. In support of their argument they cite findings from memory theory (Adams, 1967) which have clearly shown that retrieval of items requires more training than recognition of items. They also advocate severely limiting the complexity of base structures in the initial stages of second-language learning.

Before ending this discussion on informal learning, it may be worthwhile commenting on the difference between the adult reaction to the informal learning situation compared to that of the child.

It would appear that the adult is more deliberately and actively engaged in capitalizing on the situation, in attempting to learn something. Thus Ryu's (1978, op.cit.) Korean immigrants watched television with the express purpose of obtaining knowledge about the American way of life and language. Laylin's (1977, op.cit.) workers expected to apply, during the rest of their eight-hour shift, what they had learned during the first hour's instruction.

Among the studies dealing with children, on the other hand, there is an assumption that the children were interested in learning, but no indication as to how, or to what extent they practiced any language.

skill. It seems that their strategy was simply to observe and to listen to incoming language until they were satisfied they understood what was said. When children are ready to talk in the second language they seem less anxious than adults at the prospect of making errors. This is one of the affective factors suggested for the child's greater facility in second-language acquisition as compared to the adult. (Curran, 1972, 1961, op.cit.)

Informal Acquisition of a Second-Language

The difference in reaction to the informal learning environment between the adult and the child seems clear. It may have prompted one author (Krashen, 1976, op.cit.) to claim that for the child, only acquisition, not learning, is possible, and that informal environments utilizing primary linguistic data are sufficient. Krashen proposes a model in which the adult second-language learner develops a dual linguistic system for second-language performance. One system is "learned" and results from formal instruction; the other is "acquired", unconsciously, through informal environments. He makes a further distinction between informal environments where active language use occurs regularly and those where language use is irregular. Krashen notes that most adult second-language teaching methods assume that adults do not "acquire" but depend wholly on conscious learning. (The same is equally true of most second-language teaching methods for children.) He ends by saying that there is suggestive evidence that adults are able to "acquire" language, at least to some extent, while for children only "acquisition" is possible.

It is unfortunate that the distinction between informal learning and informal acquisition has not been made clear since there is, in fact,

increasing evidence that adults can and do, use informal learning environments to considerable advantage, as has been shown in the previous section of this chapter.

But Krashen is probably right in stating that adults can "acquire" a second language only to a limited extent. Informal acquisition, as stated earlier, implies an absence of deliberate or voluntary attention on the part of the learner and this may be much less possible for an adult because of his experiential knowledge and his general cognitive development than for a child who is less informed and cognitively less developed.

As Slobin (1973) points out, the pacesetter in (first language) linguistic growth is the child's cognitive growth at that time. Certain cognitive notions are simply not very amenable to linguistic manipulation. (See also Inhelder, Sinclair and Bovet, 1974. Their work suggests that the rate of cognitive development cannot be significantly altered by teaching the child the vocabulary needed to function at a higher level of cognitive development.) Cognitive development results essentially from an interaction between the subject and his environment, and this requires time and opportunity. It would appear that children acquire a second-language using a learning process most compatible with their cognitive development at the time.

Among the studies which have focused on the role of attention in children's learning one, (Hale and Taweel, 1973) provides some evidence that children, as they mature, (in this instance from 5 years to 8 years), become more flexible in their deployment of attention. They show an "increasing capacity to accommodate to the attentional demands of a learning situation," in other words, they move from an informal acquisition process to an informal learning process. It is difficult, perhaps impossible, to specify

the stage in a child's cognitive growth where he starts to employ informal learning processes, perhaps in parallel with those employed in informal acquisition. There is evidence that young children (pre-school) acquire learning incidentally, i.e. informally (Smith, et al, 1972) and there is accumulating evidence regarding the informal role of commercial television in extending first-language vocabulary (Mason, 1965) and in facilitating the initial stages of reading (Doman, 1964).

Two features of commercial television which enhance its role in informal acquisition are, (1) abundant aural and visual input and (2) imagery which is frequently voice-synchronized.

The role of imagery in learning has been discussed in Levin and Allen, (1976) (Levin, see Ch. 4, is a strong advocate of the use of pictures in learning), Sheehan (1971) and Ernest and Paivio (1969) among others. The importance of appropriate input in second-language acquisition has been pointed out by Krashen (1976, *op.cit.*) and Wagner-Gough and Hatch (1975, *op.cit.*)

Despite the limitations of television as a medium of instruction--it provides no performance feedback and it presents a difficult evaluation problem--there can be no disputing the fact that for children in particular, it appeals to interest, directs attention and provides information. It provides one of the three criteria (Rubin, 1975) which separate the "good language learner" from those who are less capable, the "opportunity" to be involved with the second-language. It must be considered one of the primary sources of informal acquisition of a second-language.

At the conclusion of her article, D'Anglejan (1978, *op.cit.*) states that there is sound theoretical, empirical and anecdotal support for the

position that verbal fluency in a second-language is most effectively acquired where it is possible for the language to be "acquired" rather than "learned". It would thus seem to be good pedagogy to determine the circumstances which favour "acquisition" and to use them to the students' advantage.

It is my contention that a number of children in the Province of Québec are favoured by a variety of circumstances which allow them to acquire some ESL informally before formal instruction begins. (Formal instruction in ESL will become mandatory in Grade 4 in 1980; previously instruction for most pupils began at Grade 5.) Whether the acquisition is great or small, it is worthwhile determining the extent of it and the major sources to account for it. It would then be incumbent upon the educational authorities, perhaps at the local level, to exploit this informally acquired knowledge through greater flexibility in their ESL programs.

In order to substantiate the argument, let us now turn to the description of a pilot study on the informal acquisition of ESL, and the description of the major research project.

Chapter Three

Two Research Projects

on the

Informal Acquisition of ESL

First Research Project

A pilot study on the informal acquisition of ESL by grade four pupils was completed in November-December, 1977. It involved two hundred pupils in six schools of one School Board in the Montréal area. These pupils were due to start formal instruction in ESL the following September. The study was motivated by the following premiss: it is illogical not to expect children in the Montréal area to have acquired some knowledge of ESL, however mediated, prior to their starting formal instruction. Circumstances of geography, media exposure, etc., may favour the acquisition of lexical items by these children. If such is the case, and the items can be identified, it may be advantageous to incorporate them into an ESL syllabus, since they represent a set of items which are culturally and linguistically valuable. The lexical set which a child acquires and retains informally, may provide a useful insight to the syllabus designer regarding the topics which can be most usefully exploited in a second-language syllabus. The study dealt with vocabulary items only and the information was obtained by means of a vocabulary test.

Description of the Test

Three sets of 35mm colour slides, designated A, B and C had been prepared, each set comprising sixty-eight (68) slides. The slides depicted discrete lexical items associated with the following topics:

1) Food	(39)*	5) Action Verbs	(14)
2) Items in the Home	(40)	6) Clothing	(14)
3) Means of Transportation	(15)	7) People/Jobs	(24)
4) Places/Buildings	(16)	8) Miscellaneous, e.g., numbers, colours, parts of the body	(39)

* number in brackets indicates number of items associated with the topic.

Care was taken to ensure that a like number of English/French cognates (limited to certain topics only) were included in each of the three sets. The final slide in each set showed a thematic picture.

Each set thus comprised:

- 1) an equal number of 35mm colour slides organized into eight topics;
- 2) the same order of presentation of topics;
- 3) an equal number of cognates.

The total number of slides prepared was two hundred and four (68 x 3), and was made up of two hundred and one discrete lexical items associated with eight different topics plus three thematic pictures, a classroom scene, a supper scene and a snowman scene. The choice of topics and items was based on two factors:

- 1) intuition regarding the type of lexical item with which children of this age may be familiar in English;

- 2) the relative lack of difficulty in making or obtaining slides relative to some topics rather than others.

Certainly other topics, e.g., sports, possessions, TV personalities, etc., were considered for inclusion but the difficulty in making or obtaining slides pertaining to them legislated against their inclusion.

Test Procedure

Grade four pupils, in pairs, were assigned to a bilingual monitor. One set of slides was shown and the pupils asked, alternately, to give an appropriate French word for the item depicted and, if known, an appropriate English word for the same item. Asking for the French word was necessary

in order to establish that the item depicted was readily recognizable and that no confusion resulted from the quality of the colour slide. All answers suggested by the pupils were noted down. The other pupil in the pair was asked to confirm the choice of English word made by the first pupil or to suggest any other appropriate word. If the first pupil asked did not know an appropriate English word for the item depicted, the second pupil was asked. When neither of the two pupils knew, or could suggest an appropriate English word for the item depicted, this was also noted. When the last slide, the thematic picture, was shown, the pupils were asked to give any English words which they knew relative to the picture. Everything suggested was noted down. As soon as one set of slides had been shown, two other pupils were invited in, the set of slides was changed for another, and the test procedure repeated.

Before a set of slides was shown, the procedure for replying was explained, in French, to the pupils. They were asked to reply frankly and not to be concerned if they did not know an appropriate English word for what they saw since they were not being formally tested. The monitors had been cautioned to use discretion in noting one pupil's confirmation of another's choice. Adequate time to reply was given and the average time required to show one set of slides was twenty-four minutes. An audio tape was made of at least one pair of pupils each time a set of slides was shown. When several pairs of pupils viewed a set of slides at the same time, the pairs, with their monitor, were seated in the room in such a way as to minimize the possibility of interference. Approximately the same number of pupils saw each of the three sets of slides and approximately equal numbers of boys, and of girls saw each set. The distribution of the numbers of pupils viewing each set of slides is as follows:

Table 3.1 Pupil/Set Distribution

<u>Set</u>	<u>Boys</u>	<u>Girls</u>	<u>Totals</u>
A	34	31	65
B	42	26	68
C	37	30	67
Totals	113	87	200

Compilation of the Replies

All replies given in each of the three sets were rank-listed by frequency. Thus, three rank lists were drawn up. It was decided to keep, for analysis, only those items known, i.e., identified, by sixty percent (60%) of the children who saw them. This list of items is given in Appendix 1.

An analysis of the results indicated a sizeable ESL vocabulary among a high percentage of the two hundred pupils who participated in the study. One hundred and sixteen (116) lexical items, associated with eight topics were known by at least sixty percent (60%) of the pupils. These items were known 'productively', that is, the pupils identified the item verbally from a visual stimulus. The correlation between the 116 items and the list of lexical items introduced in the first book of a widely-used ESL manual* for this age level of pupil was 0.2.

It will be seen from Appendix 1 that vocabulary items associated with three of the topics, Food, Means of Transportation, People/Jobs, are known to a significantly greater extent than items associated with the other

* Look, Listen and Learn, by L.G. Alexander and A. Dugas. Published by Longman, Canada, 1972.

topics selected. They represent an impressive inventory of informally-acquired English vocabulary accounting for half of the items occurring in the 60% list and they point to some topics which may be profitably exploited in the ESL classroom.

A questionnaire was devised and was later completed by the same pupils. It was designed to establish possible sources accounting for the informally-acquired knowledge of ESL. An analysis of the completed questionnaires revealed the importance of some sources: television, the home, the opportunity to travel and spend time (holidays) in English-speaking areas, and so forth. Still later, (May, 1978) one hundred and sixty (160) of the original 200 pupils were given five hours instruction in ESL at a rate of two, half-hour lessons per week for five weeks. At the end of the instruction they were given a written test in English. The test dealt with vocabulary and spelling and elementary syntax and aimed at determining whether the rather ambitious methodology and content used during the period of instruction had been successful.

The pilot study had provided interesting and challenging insights and it seemed clear that the informal acquisition of ESL warranted further investigation. One major criticism of the first study was that by having two pupils participate at the same time, the possibility that one had influenced the other could not be discounted. On the other hand, to complete the study with pupils participating individually would have necessitated an unconscionably long time and may have caused serious administrative problems. Also, the scale of the first study was somewhat limited, being restricted to one urban School Board and one mode of testing. The advantages of incorporating a number of different variables into such a study were considered and it was decided to undertake a second study, in November-

December, 1978, on a larger scale and with a more precise experimental design.

One point should be clearly established. The purpose of both research projects was to establish evidence relative to the acquisition, or non-acquisition, of ESL among pupils yet to start formal instruction in the subject. Information regarding informal acquisition of ESL would then be used to substantiate recommendations about changes in the content and methodology of present programs, but such changes would require time before they could be implemented. Pupils taking part in both research projects were yet to take formal instruction in ESL so there was no question of comparing one ESL program based on informal acquisition with another already in use in the schools. The experimental design of the second research project was therefore limited, of necessity, to establishing evidence of informal acquisition of ESL and to noting the effects of certain variables on that acquisition.

Second Research Project

The Hypotheses

The following hypotheses were to be investigated:

1) informal processes play a significant role in the acquisition of ESL by pupils prior to their receiving formal instruction and should, therefore, be taken into account when preparing ESL programs;

2) differences in geographic milieu and socio-economic levels will be significant factors affecting the informal acquisition of ESL preceding formal instruction in ESL.

The Aim.

To determine whether the ESL capabilities of Primary grade pupils are being pedagogically satisfied by the existing single programme approach.

Hypotheses.

Data were to be obtained regarding the following:

- 1) The range of lexical items known receptively, in each of two modes of presentation, by Grade 3 pupils yet to start formal instruction in ESL;
- 2) Differences in the extent of informally acquired knowledge of ESL attributable to different geographic milieux, i.e., urban, suburban, rural;
- 3) Differences in the extent of informally acquired knowledge of ESL attributable to different socio-economic levels, i.e., upper-middle class, middle-class, working-class;
- 4) Differences in the extent of informally acquired knowledge of ESL attributable to different educational systems, i.e., public, private;
- 5) The importance of different sources of informal acquisition of ESL alone or in combination.

Operational Definitions.

- 1) Geographic milieux:

Urban: Within a radius of ten miles from the centre of Montréal;

Suburban: Within a radius of twenty miles from the centre of Montréal and characterized by a work-force which, in the main, commutes;

Rural: Beyond a radius of twenty miles from the centre of Montréal and characterized by a work-force not required to commute to a major population centre for employment.

2) Socio-economic levels:

Upper-middle class: As so designated by the school principal and characterized by employment in professional occupations, ownership of own homes and salaries exceeding \$25,000/annum;

Middle-class: As so designated by the school principal and characterized by full-time employment, ownership of own homes and salaries ranging between \$16,000 to \$25,000/annum;

Working-class: As so designated by the school principal and characterized by some unemployment, renting of accommodation and salaries not exceeding \$16,000/annum.

3) Informal Processes:

Those processes, characterized by an absence of overt and deliberate intention to learn on the part of the individual, which nevertheless result in learning.

Test Subjects.

Three hundred and seven (307) Grade Three pupils were tested. This number was made up of pupils in three School Boards, (nine schools, eight public, one private), in different geographic milieux and at different socio-economic levels. Table 3.2 gives the information regarding the participating schools.

Table 3.2 Test Subjects: Participating Schools

School Board	School	Geo. Milieu	Socio-Econ. Level	Education System	No. of Pupils
Ste Croix	1	Urban	Upper-Middle	Public	49
Ste Croix	2	Urban	Working	Public	57
Laprairie	3	Suburban	Working	Public	27
Laprairie	4	Suburban	Middle	Public	25
Laprairie	5	Suburban	Working	Public	22
Deux-Mont.	6	Suburban	Middle	Public	51
Deux-Mont.	7	Rural	Middle	Public	26
Deux-Mont.	8	Rural	Middle	Public	23
Private	9	Urban	Middle	Private	27
					307

Table 3.3 on the following page, gives the relevant demographic information regarding the test subjects.

Table 3.3. Test Subjects: Demographic Information

Geographic Milieu:	Urban	Suburban	Rural	Total		
	133	125	49	307		
Socio-Economic Level by class:	Working	Middle (sub.)	Middle (rur.)	Upper- Middle	Total	
	106	103	49	49	307	
Educational System:	Public		Private	Total		
	280		27	307		
Sex:	Male		Female	Total		
	166		141	307		
Age in Years:	7 yrs	8 yrs	9 yrs	10 yrs	11 yrs	Total
	5	204	87	9	2	307
Born in Québec:		Yes		No	Total	
		289		18	307	

Materials

A set of sixty-four (64) ostensibly definable lexical items was prepared and organized into groups of eight. Each group of eight pictures related to a topic, thus:

- | | |
|-----------------|------------------|
| 1) Possessions | 5) The Home |
| 2) Food | 6) Clothing |
| 3) Action Verbs | 7) Miscellaneous |
| 4) The Family | 8) Christmas |

There is evidence (Handscombe, 1969) that certain topics or themes are more appealing to children of various ages. Also, the first research project and the subsequent instruction had established topics of particular interest, hence the choice of topics listed here.

All pictures were simple, black and white line drawings. Each group of eight pictures easily fitted onto an 8 1/2" x 11" page. The complete set thus comprised eight groups of eight pictures.

The set of pictures was used as the stimulus in two tests, each with a different mode of presentation.

Mode 1: The eight (8) pictures comprising a group were numbered 1 - 8 in non-sequential order on a page. The order varied from page to page. At the bottom of each page, the written referents corresponding to the eight pictures were given and a space provided in which the S could write the number of the picture which corresponded to the written referent. Each S was thus provided with a test booklet consisting of eight (8) pages in which sixty-four (64) test items (eight per page) were depicted. Mode 1 was to test knowledge of lexical items through a combined visual/written mode of presentation. A sample page of the test booklet used in Mode 1 is appended (Appendix 2).

Mode 2: The same sixty-four (64) lexical items were used. The eight pictures making up a group had been re-arranged on the page and were now identified by the letters A-H. A different order of presentation from that used in Mode 1 was established. The pages were numbered 1 - 8 and a projectual made of each page for display on an overhead projector. The size of the projected image, 4' x 4', allowed it to be easily seen by all the pupils in a class. An audio tape was made. Ss were instructed to look at the projected group of eight pictures for twenty seconds after which, an item depicted was named twice. Ss then had ten seconds in which to hear the repeated word, identify the picture to which it corresponded, note the letter identifying this picture and mark the letter down in the

appropriate space on the answer sheet provided. Then the name of another item was given twice, and so forth. When all eight (8) items had thus been named, the projectual was changed and the process repeated. Mode 2 was to test knowledge of lexical items through a combined visual/verbal mode of presentation. A sample projectual used in Mode 2 is appended (Appendix 3). The complete list of items with the order of presentation in each of the two modes is given in Appendix 4.

Test Procedure.

Arrangements had been made with school principals to test the Ss on a normal school day. Where two classes of pupils in the same school were tested, one class immediately followed the other.

Ss were told (in French) that the examiner was trying to determine whether any English had been informally acquired and that the Ss were to attempt two tests, not examinations, and complete a questionnaire. Examples were given for the Mode 1 test and the procedure for answering was explained. Ss were invited to ask questions for further clarification, if necessary. When all were satisfied that the procedure was understood, the test booklets were distributed and the test began immediately. Ss had been told that they would be allowed only ninety (90) seconds to complete each page before being told to turn to the next page. During the first minute, two monitors circulated around the class making sure that the correct answering procedure was being followed. When all eight pages had been attempted, Ss were allowed an additional two minutes to complete any missed answers. They were then asked to write their names on the first page and the booklets were immediately collected. The total time for the Mode 1 test, including instructions and examples, distribution and

collection of test booklets, averaged twenty-five (25) minutes. The second test was given at once.

The answer sheets for the Mode 2 test were distributed and the Ss wrote their names in the space provided. The tape was tried for clarity and audibility and a sample* projectual was shown. The procedure for answering was explained and several examples completed. Ss were invited to ask questions for further clarification, if necessary. When all were satisfied that the procedure was understood, the tape was started and the test began immediately. During the first minute, two monitors circulated around the class making sure that the correct answering procedure was being followed. When all eight projectuals had been shown, the projector was turned off and the answer sheets collected. No additional time was given. The total time for the Mode 2 test, including instructions and examples, distribution and collection of answer sheets, was twenty minutes, maximum.

The Questionnaire.

A questionnaire, in French, had been prepared. It comprised twenty-three questions and was designed to furnish information regarding possible sources of informally-acquired ESL. Most questions required the S simply to circle the appropriate reply from the choices given. One question, #16, required the S to write down the names of his/her four favourite English TV programmes. In order to save time, a projectual had been prepared on which were listed the names of 16 programmes known to appeal to children of this age level. At the appropriate time, this projectual was

* not used in the test.

displayed and the Ss were able to copy down the names of their choices. Where necessary, the names of other suggested programmes were written on the black-board.

When all the questions had been answered, the questionnaires were collected, the Ss thanked and the class turned over to the regular teacher. The total time required to complete the questionnaire was twenty-five minutes. This included instructions, explanations, distribution and collection. A copy of the questionnaire is appended (Appendix 5) and a resumé of the replies (Appendix 6).

It should be noted that the same examiner administered the tests and questionnaires to all groups of Ss taking part in the study. This was to ensure a standardization of procedure. The tests and questionnaires were administered during the period, November 20 - December 14, 1978.

Second Research Project: Shortcomings.

Two deficiencies in the research design of the second project should be pointed out:

1) The selection of a very limited number of lexical items (64) from among the many which a Grade 3 Francophone child may reasonably be expected to know in English may well give an inaccurate picture of the child's actual acquisition of ESL. This is particularly true where the themes from which the items have been chosen do not, in fact, correspond to those most appealing to some of the Ss tested.

2) The use of the same lexical items in consecutive tests, albeit in two different modes of presentation, may unfairly influence the results of the second test.

In the section dealing with the recommendations for further research at the end of Chapter Five, the problem of selection and of research design will be discussed at more length.

Chapter Four

Results

Results

Compilation of the Results

The demographic information, the test scores and the replies to the variables featured in the questionnaire were prepared for computer processing on a CEC Cyber 172 computer using the SPSS with Crosstabs sub-programme.

For convenience in computing and accessing data, the test scores (out of 64) were grouped as follows: 0-3, 4-11, 12-19, 20-27, 28-35, 36-43, 44-51, 52-59, 60-64. It was thus possible to determine the number of Ss scoring between 36-43, for example, but not the number scoring 36 or 37, etc. Later, the exact number of Ss obtaining particular scores, e.g., 64, was required and accessed from the computer programme; otherwise, it was felt that grouped scores would provide sufficient precision for analysis. The following three sets of scores were computed: grouped score on the 1st test, grouped score on the 2nd test, grouped score for both tests.

The most appropriate statistic (from the SPSS) to use with the type of data being processed, i.e., where the Independent Variable does not follow a scale, is ETA. The range of this statistic is from 0 to 1.0, the higher numbers indicating a greater degree of probability that the Independent Variable has influenced the test score. Other statistics which can be used in conjunction with ETA as predictors are Lambda and Uncertainty Co-efficient and Chi square which indicates the probability of a relationship between the test score and the Independent Variable. Appendix 7 lists all the variables by number and description and for each gives ETA, Lambda, Uncertainty Co-efficient, and Chi square (NB df varies) for the three sets of test scores. In order to facilitate reference to the variables in the analysis and discussion of the results, a complete list of variables, identified by number and description, is given in Table 4.1 on the next page.

In the analysis and discussion of the results, the variables are treated separately. Statistics are given and, in order to illustrate the more significant results, figures (histograms) have been drawn whenever the ETA computed for a test score and a given variable is 0.4 or higher.

Table 4.1. Variables by Number and Description

Variable number	Description
03	School Board/School
05	Socio-geographic milieu
06	Socio-economic milieu
07	Grade
08	Sex
09	Age in years
10	Born in Québec
139	Language spoken with mother
140	Language spoken with father
141	Language spoken with siblings
142	Frequency of mother speaking English
143	Frequency of father speaking English
144	Frequency of siblings speaking English
145	S has attended an English school

Variable number	Description
146	Language spoken with friends
147	With how many persons S speaks English
148	Relationship to that person/those persons
149	Ability of S to express himself in English
150	Ability of S to read English
151	Father reads to S in English
152	Mother reads to S in English
153	Four TV channels most watched, in order
-	
156	
157	Four favourite English TV shows, in order
-	
160	
161	Frequency of S watching English TV
162	Frequency of S watching favourite English TV shows
163	Number of times S has been on holiday in an English-speaking area
164	Location of this place/these places
-	
166	
167	Where/how S learnt the English he knows
-	
169	
170	Three favourite activities/pastimes of S
-	
172	
173	Number of hours/week S watches English TV

Analysis and Discussion of the Results

General Observations

a) There is clear evidence that some knowledge of ESL vocabulary has been informally acquired, in varying degrees, by these pupils. Table 4.2 summarizes the results of the two tests.

Table 4.2: Summary of Tests Results

School	Min	Max	\bar{X}	Test#
1. Urban	16.00	64.00	37.9	1
	6.00	64.00	37.2	2
2. Urban	6.00	64.00	36.5	1
	10.00	64.00	44.4	2
3. Suburban	9.00	54.00	24.9	1
	9.00	44.00	26.7	2
4. Suburban	19.00	53.00	29.2	1
	4.00	60.00	26.2	2
5. Suburban	14.00	55.00	27.5	1
	8.00	56.00	28.9	2
6. Suburban	9.00	64.00	36.8	1
	7.00	64.00	42.5	2
7. Rural	16.00	64.00	26.9	1
	10.00	64.00	28.9	2
8. Rural	9.00	64.00	26.2	1
	12.00	64.00	27.5	2
9. Urban (Private)	22.00	64.00	39.0	1
	13.00	64.00	36.8	2

The mean score for test items correctly answered varies from 24.9 (39%) to 39.0 (60%) on Test 1 and from 26.2 (41%) to 44.4 (69%) on Test 2.

The minimum/maximum scores (out of 64) range from 6 to 64 on Test 1 and from 4 to 64 on Test 2. In most schools, a number of Ss scored very highly on both tests, i.e., 64 correct out of 64.

b) There is some indication that multiple language skills are involved in informal acquisition and that the skills may be mutually re-inforcing. In each of the nine schools, the mean average score obtained in each of the two modes of presentation, i.e., Visual/Written (Test 1) and Visual/Verbal (Test 2), are surprisingly close. For example, School #1:

Test 1 $\bar{X} = 37.9$

Test 2 $\bar{X} = 37.2$

The largest point spread when comparing the two modes of presentation is to be found in School #2:

Test 1 $\bar{X} = 36.5$

Test 2 $\bar{X} = 44.4$

This is a difference of 8 points (12%) with the higher result being obtained on the Visual/Verbal mode of presentation.

In the minimum score column, there is some indication of the greater effectiveness of one mode of presentation over the other. In five cases where the point spread exceeds 6 (in one case it is 15) the Visual/Written mode of presentation has produced the higher score. The Rank List of Aggregate Scores (Appendix 8) shows that the cognates figure prominently among the most frequently known vocabulary items. This would appear to support the claim that a multi-skill approach, incorporating the inclusion of cognates and lexical borrowings in the initial stages of ESL instruction, is pedagogically sound.

It was mentioned earlier that, at the Primary level of ESL instruction, reading is accorded very little importance and the reading skill is not

formally taught, at the Primary or Secondary levels. It is widely accepted without theoretical or empirical justification (as Noblitt, 1972, points out) that training in 'superordinate' skills automatically provides competence in corresponding 'subordinate' skills. There is empirical evidence to the contrary (Agard and Dunkel, 1948) and both Burstall (1970) and Jakobovits (1970) suggest that the automatic acceptance of the aural-oral method may put some students at a distinct disadvantage. Burstall states:

"To judge from the test results and the pupils' own comments, the introduction of reading constitutes a critical period in the language learning process. For some pupils it provides a welcome return to a familiar medium of achievement."

(Burstall is referring to students who started to study French at age 8.)

The contention that the early introduction of the second-language reading skill is harmful to the acquisition of first-language skills has never been satisfactorily argued. Nevertheless, a major methodological feature of ESL instruction for Primary grades is the avoidance of introducing the child to the written word. There seems to be a clear indication from the present study that before formal instruction even begins, the child has already acquired some facility in identifying and understanding written words in English.

c) There is a remarkably high degree of consistency in the vocabulary which has been acquired. This consistency is noted across groups and across both tests.

The 64 lexical items used in the test(s) comprised 25 cognates or lexical borrowings and 39 non-cognates or non-lexical borrowings. Lists have been prepared showing the rank order of acquisition as indicated in the test results. These lists are given in Appendices 9-14. The high degree of consistency in the acquired lexicon, despite the diverse

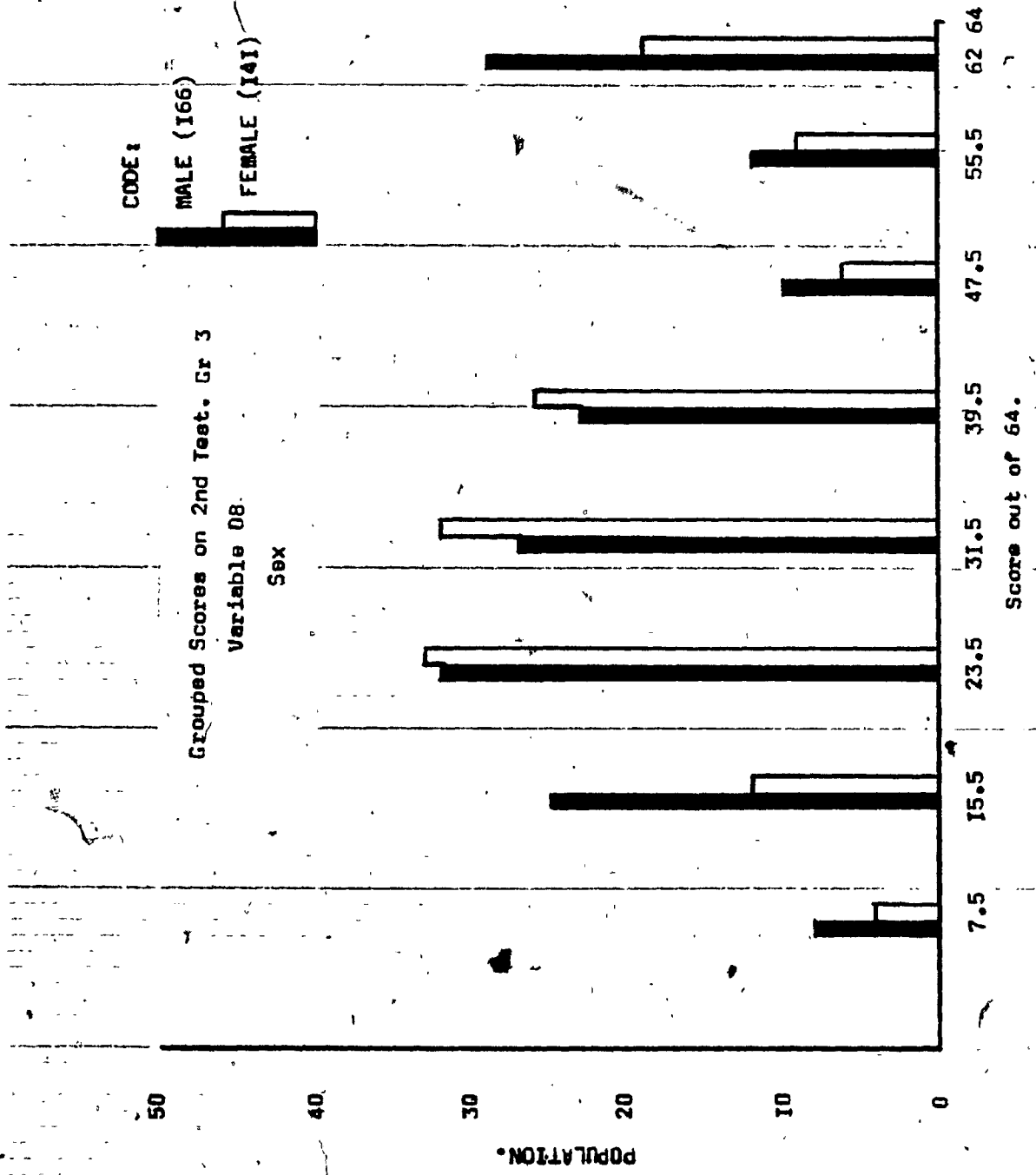
socio-economic backgrounds of the pupils and despite the range in the ethnic make-up of the classes, namely, from multi-ethnic to predominately Francophone; would suggest a 'universal' appeal or significance of certain lexical items for this population.

Evidently, the vocabulary items associated with some themes are more readily acquired informally than are those associated with other themes. This may be attributed to interest, importance, exposure or other factors. It does point to the need to extend this type of study in order to isolate and enumerate those themes which, by their intrinsic value to the pupils, can be most usefully exploited in the ESL classroom. For example, many of the most commonly known non-cognates are names of foods. (See Appendix 13). In the first research project, this theme predominated and accounted for thirty-one of the one hundred and sixteen items known by at least 60% of the pupils tested.

d) The items known, and the percentages of items known are consistent across sex. (See Figure 4.1 on the next page). In the mid-score-range, girls are somewhat more capable than boys, but in general, levels of performance parallel each other closely. In the first research project parallel levels of performance were also noted. It would appear that, at the Primary level, an initial ESL lexicon of 'universal' appeal can be established and profitably used in the classroom. There is some evidence to suggest that at a later stage, e.g., Secondary II or III, the lexicon selected for inclusion in an ESL manual should more closely reflect the interests of each sex. (Banko and Smith, 1979, op.cit.)

e) The value of cognates as an efficient approach to second-language acquisition was discussed in a recent doctoral thesis (Hammer, 1978). She makes the following statement:

Figure 4.1



"A primary objective in the new method of learning a second language must be to decrease the ratio of the time expended to the proficiency attained. Increased efficiency of method will minimize the expenditure of time and money involved."

Her claim that the judicious use of cognates will facilitate second-language acquisition finds support in the present study. What will be proposed in the conclusion here will be the careful selection of particular lexical items, including cognates and lexical borrowings, according to their known relevance and importance to particular groups of pupils. Cognates will be included because they make the denotative and/or conceptual meaning of an English word more quickly accessible to a child.

As mentioned above, there were 25 cognates and lexical borrowings in the 64 lexical items used in the tests. The Rank List of Aggregate Scores (Appendix 8) shows that of the first ten items in Test 1 and Test 2, nine are cognates or lexical borrowings; and that of the first 31 items in Test 1, and the first 36 items in Test 2, twenty are cognates or lexical borrowings.

Specific Observations

In this section, the variables will be treated separately.*

Variable 03. School Board/School

and

Variable 05. Socio-Geographic Milieu

Children in urban schools have a higher mean average score than children in suburban and rural schools. There is one exception to this observation: School #6, a suburban, middle-class school, compares favourably with the urban schools. Children in the three other suburban schools (two working-class and one middle-class) obtained comparable scores on the tests. There is no significant difference in the scores between urban public and urban private school pupils. Twenty-four Ss scored 64/64 on Test 1 and thirty one Ss scored 64/64 on Test 2. The majority of these pupils, 15 and 19 respectively, are from the urban schools (n = 106) while 6 and 8 respectively are from one suburban school (school #6 already mentioned (n = 50)). Taken together, these two groups show impressive evidence of considerable informal acquisition of ESL and the results would seem to justify the claim for two programmes, one for 'regular' pupils and one for the more advanced pupils.

Variable 06. Socio-Economic Milieu

While the socio-economic milieu is not a statistically significant factor affecting the test scores, there is, nevertheless, a marked difference in the mean average scores, c.f. Test 1:

*The reader is also referred to Appendix 6, the resumé of the questionnaire replies.

Working-class (106 pupils/3 schools)	$\bar{X} = 31.5$
Urban/suburban middle-class (103-pupils/3 schools)	$\bar{X} = 35.2$
Rural middle-class (49 pupils/2 schools)	$\bar{X} = 26.2$
Upper middle-class (49 pupils/1 school)	$\bar{X} = 37.0$

Pupils from the urban working-class milieu (school #2) have a mean average score approximately 10 points higher in each of the two tests than suburban children from the same socio-economic milieu. Ss from school #2 obtained the highest mean average score on Test 2 ($\bar{X} = 44.4$).

Variable 07. Grade.

All pupils tested were in Grade 3.

Variable 08. Sex.

No significant differences were noted. (See 4.2.1d) and Figure 4.1

Variable 09. Age in years.

The 307 Ss taking part in the study ranged in age from 7 years to 11 years:

Age in years:	7	8	9	10	11	
Number of Ss:	5	204	87	9	2	(Total: 307)

The 8 year-old group had superior scores to the 9 year-old group on each test, c.f.:

Age	Test 1	Test 2
8	$\bar{X} = 34.3$	$\bar{X} = 36.0$
9	$\bar{X} = 30.2$	$\bar{X} = 33.6$

Nevertheless, age does not appear to be a significant factor.

Variable 10. Born in Québec.

290 of the Ss were born in Québec and 19 outside the Province. This is not a significant variable.

Variable 139. Language spoken with mother.

Variable 140. Language spoken with father.

Variable 141. Language spoken with siblings.

Variable 139.	Test Scores (grouped)	ETA	Lambda	Uncertainty Co-efficient	Chi ²
	for both	.4401	.0657	.0623	.0000

This is a significant variable. Eleven (11) of the thirteen (13) Ss who claim that the language usually spoken with their mother is English, scored between 60-64 on each of the two tests. Some of these pupils are undoubtedly native-speakers of English; others are immigrant children for whose family English is an already-acquired second language. The ETA statistics for variable 140, (ETA=.3905) and for variable 141, (ETA=.3497) for the same test, are only marginally less significant.

Variable 142. Frequency of mother speaking English.

Variable 143. Frequency of father speaking English.

Variable 144. Frequency of siblings speaking English.

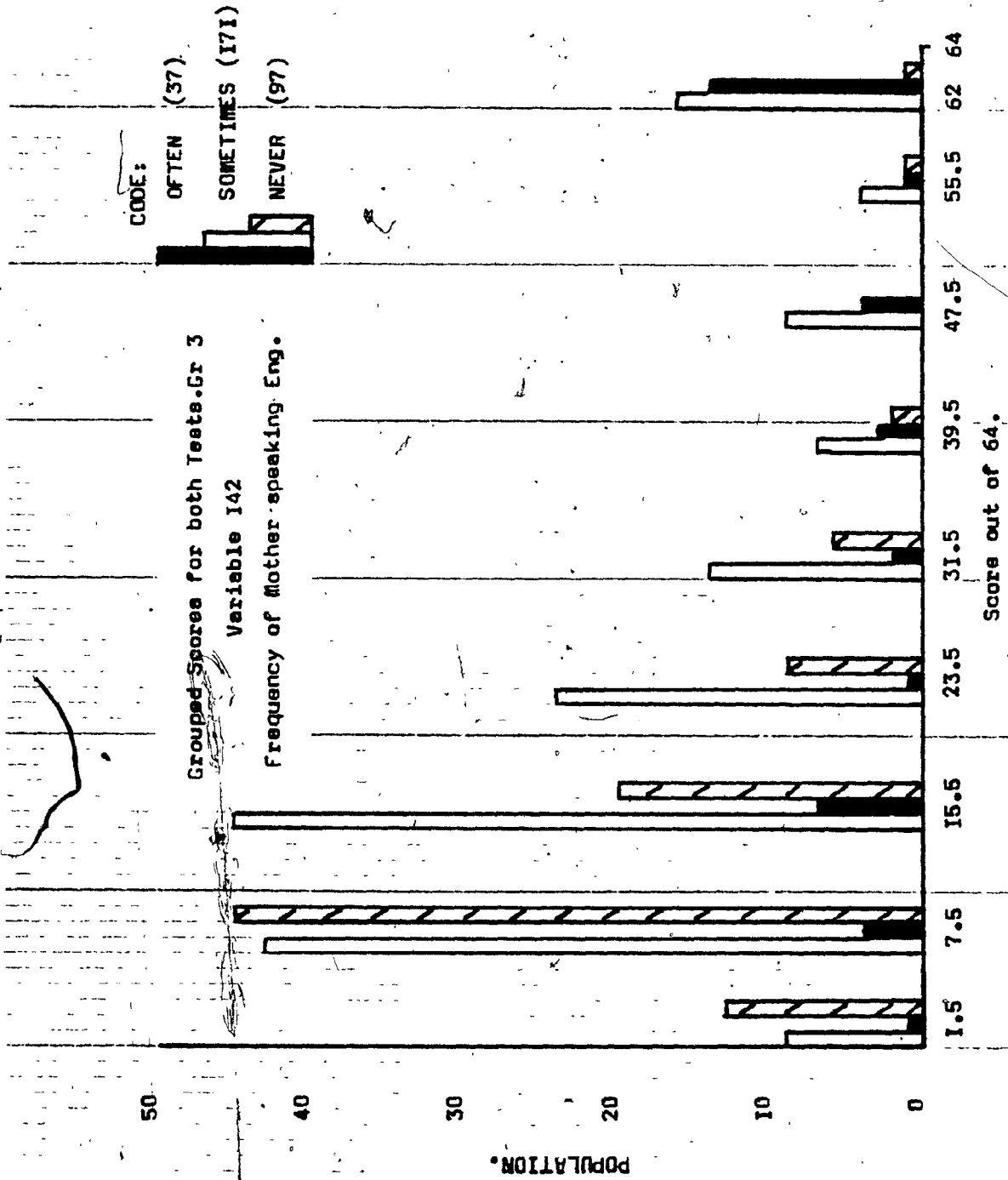
Variable 142	Test Scores (grouped)	ETA	Lambda	Uncertainty Co-efficient	Chi ²
	on 1st	.3952	.0405	.0491	.0000
	on 2nd	.4168	.0829	.0639	.0000
	for both	.4337	.0563	.0619	.0000

This is a significant variable. Ss from families where the mother (and to a lesser extent the father and siblings) speaks English, and presumably is heard speaking English often, scored significantly higher in each test than those Ss whose mother speaks English sometimes or never. Thirty-seven (37) Ss indicated that their mother speaks English often and of this number, 14 obtained 60-64 on the first test and 20 obtained 60-64 on the second test. These figures represent 37.8% and 54.1% respectively. In comparison, of those Ss indicating that their mother speaks English sometimes, 11.7% and 14.6% score between 60-64 on the 1st and 2nd tests respectively. Among the 97 Ss indicating that they never hear their mother speak English, the percentage scoring 60-64 in each test is 1.0% and 3.1% respectively. Figure 4.2; on the next page, illustrates the grouped score for both tests.

Variable 145. S has attended an English school.

Twenty-one (21) of the Ss had attended an English school but no precision regarding location or length of time was requested or given. It does not appear to be a significant factor at this age.

Figure 4.2



Variable 146. Language spoken with friends.

Variable 146. (grouped)	ETA	Lambda	Uncertainty Co-efficient	Chi ²
on 1st	.4166	.0450	.0633	.0000
on 2nd	.4155	.1120	.0619	.0000
for both	.4598	.0610	.0662	.0000

This appears to be a significant factor, the ETA statistic for each set of tests scores, grouped score on 1st test, grouped score on 2nd test and grouped score for both tests, being superior to .4 (see above).

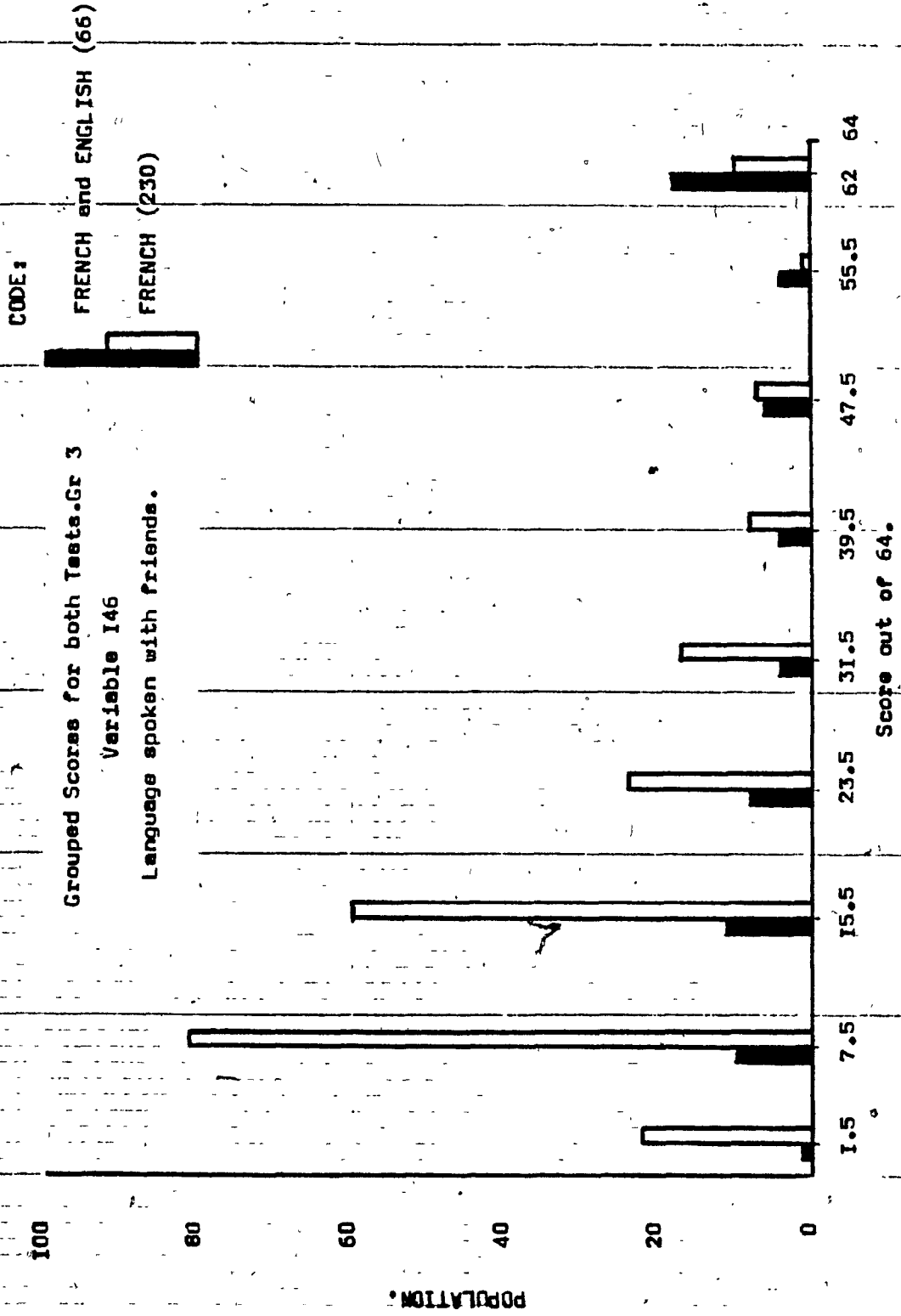
Six possible replies were suggested and they are listed here with the number of Ss replying to each:

French	English	Other	Fr. and English	Fr. and Other	Fr., English and Other
n = 232	6	1	66	1	1

Among the possible replies only two, viz. French, and French and English, are noteworthy, the others being numerically insignificant. Figure 4.3, on the next page, illustrates the grouped score for both tests comparing these two replies.

It was mentioned in Chapter 2 that Rubin (1975, op.cit.) gave "opportunity to be involved with the second language" as one of the three principal criteria distinguishing the "good language learner" from those deemed less capable. This observation is substantiated repeatedly in the present study, as witness variable 146 among others. Those children with the opportunity to listen to English and to practice it in informal situations display a significantly greater level of competence in the tests.

Figure 4.3



Variable 147. With how many persons S speaks English

Variable 148. Relationship to that person/those persons.

Variable 147	Test scores (grouped)	ETA	Lambda	Uncertainty Co-efficient	Chi ²
	on 1st	.3818	.0585	.0534	.0000
	on 2nd	.4074	.0912	.0614	.0000
	for both	.4350	.0469	.0570	.0000

It is convenient to deal with these two variables together.

Ss were asked to indicate the number of people with whom they have the opportunity to speak English and to indicate who the people are. Three possible replies were suggested for variable 147. They are listed here with the number of Ss replying to each.

	<u>With several people</u>	<u>with one person</u>	<u>with no-one</u>
n =	68	96	143

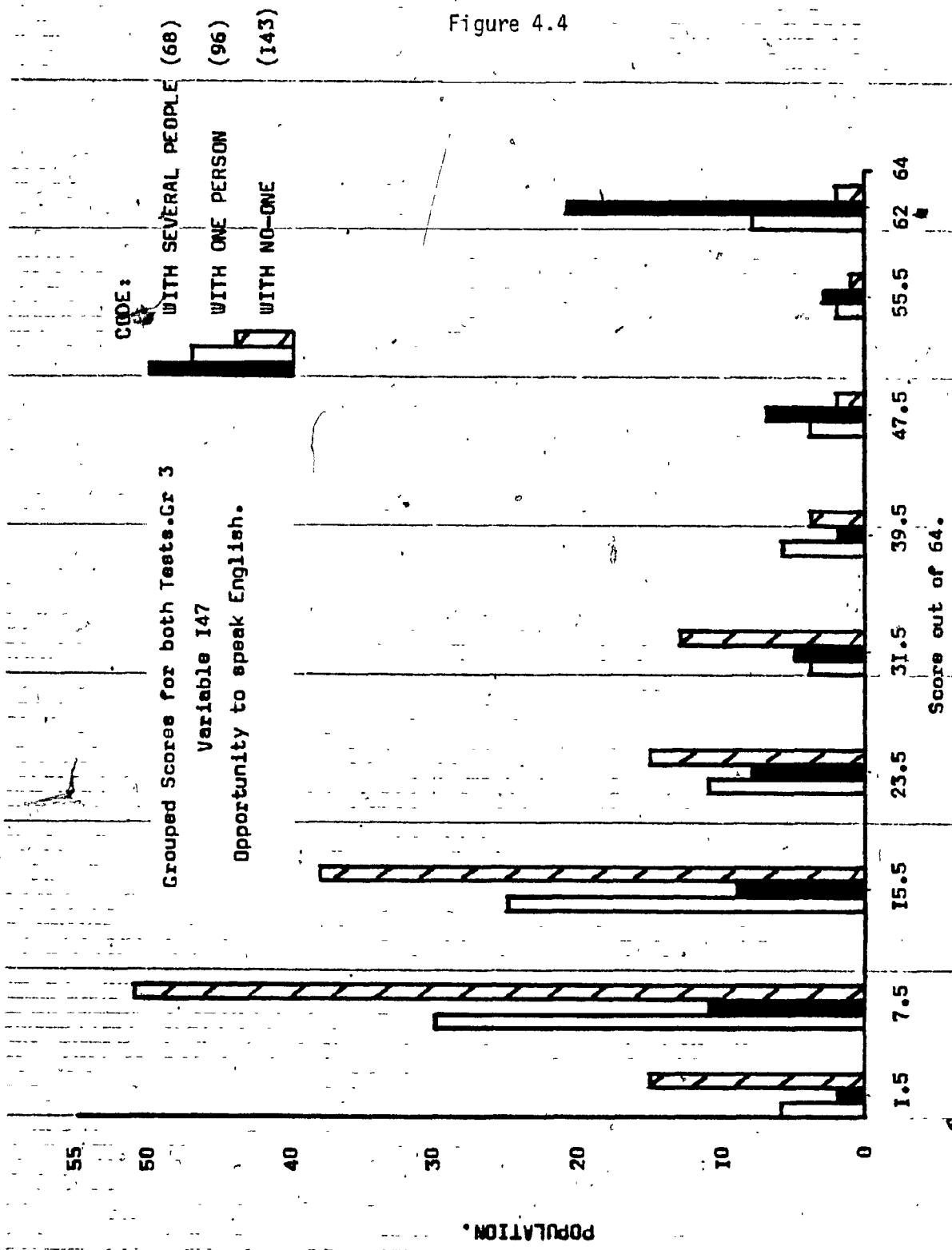
A number of possible replies were suggested for variable 148, the three most frequently indicated being:*

	<u>Friend</u>	<u>Relative</u>	<u>Neighbour</u>
n =	61	45	21

Variable 147 appears to be significant, underlining once again that the opportunity to be involved with the second language is a major factor in its acquisition. It will be seen from Figure 4.4 on the next page that those Ss with the opportunity to speak English with several people, figure prominently among the high scorers. It should be noted, nonetheless, that the questionnaire did not request the S to indicate the amount or extent of English-language contact, and it may range from a very limited verbal exchange with a neighbour to the, perhaps, exclusive use of the

* Those Ss replying "with no-one" to variable 147, did not, of course, reply to 148.

Figure 4.4



language with a family member. It is noteworthy that more than 50% of the Ss have some opportunity, however limited, to use English, a factor totally ignored in present syllabus design. Also of note is the number of Ss, particularly in the urban or suburban environments, who have English-speaking friends.

Variable 149. Ability of S to express himself in English.

Variable 149 (grouped)	Test scores	ETA	Lambda	Uncertainty Co-efficient	Chi ²
on 1st		.5072	.1760	.1252	.0000
on 2nd		.4435	.1260	.1228	.0000
for both		.5280	.1707	.1228	.0000

This variable is an extension of variables 147 and 148 and those Ss who indicated that they had no opportunity to speak English (variable 147) did not reply to this question. It is, nevertheless, a significant variable and it is interesting to note that a child's self-assessed rating is quite an accurate indicator of his English-language performance. Forty-nine (49) Ss claimed to be able to express themselves in English "very well" and thirty-one (31) of this number scored 60-64 on Test 2 (Visual/Verbal mode). Some of the others have over-estimated their proficiency in English, in some cases, considerably. This points to one of the drawbacks of a questionnaire with a subjective rating scale: it will be interpreted by the respondents according to their own criteria which, evidently in the case of children, vary widely.

One hundred and five (105) Ss of the one hundred and sixty-four (164) who replied to this question claim to be able to express themselves in English "very well" or "quite well", a surprisingly high figure which would

seem to justify pre-instruction testing in order to ensure that the child follows a programme compatible with his level of proficiency. Figure 4.5, on the next page, illustrates the grouped scores for both tests for this variable.

Variable 150. Ability of S to read English.

Variable 150	Test scores (grouped)	ETA	Lambda	Uncertainty Co-efficient	Chi ²
	on 1st	.5214	.0585	.0998	.0000
	on 2nd	.4327	.1078	.0853	.0000
	for both	.5244	.0798	.1030	.0000

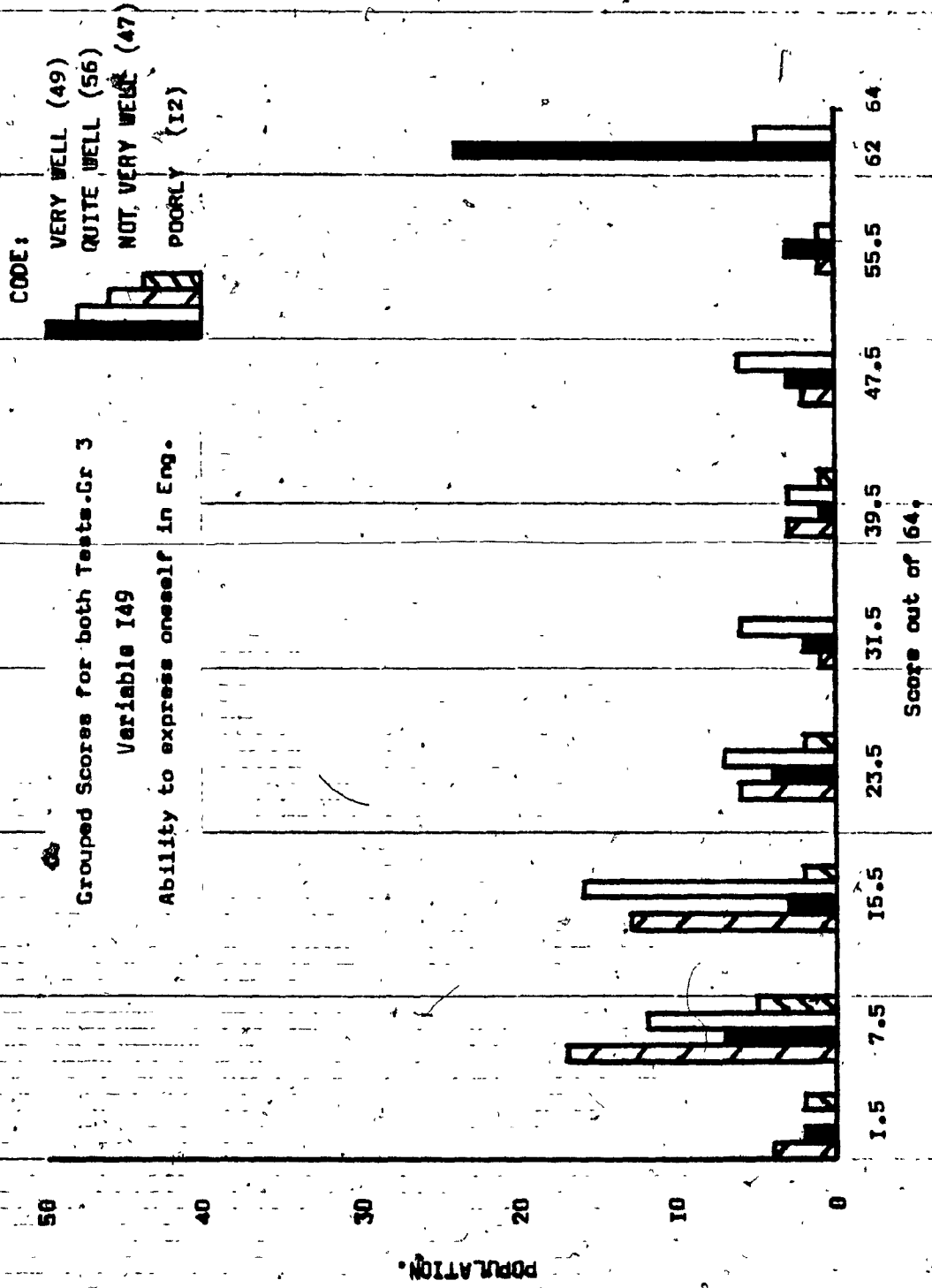
This variable appears to be one of the most significant of those being considered. It is noteworthy from two points of view:

1. Twenty-two (22) Ss claim to be able to read "very well" in English and the scores on Test 1 seem to substantiate that claim. Quite a large number, seventy-nine (26%) claim to be able to read "quite well". In other words, about one third of the Ss, who already have some ability in reading, will begin a programme in which no importance is accorded the reading skill in the first year and no attempt is made to teach reading when it does become a feature of the manual;

2. Even the large number of Ss who claim to be able to read only "poorly" (115 Ss, or 37.7%) in fact under-estimate their ability in this skill and obtain quite a respectable mean average score ($\bar{X} = 29.3$ out of 64) on the 1st test.

The traditional approach to second-language instruction has been to treat the four language skills, comprehension, speaking, reading, writing, as independent components. Comprehension and speaking are accorded

Figure 4.5



primacy in the initial stages, the difficulties associated with writing result in the introduction of this skill being delayed, and reading is rarely taught formally in ESL instruction (Primary and Secondary) in Québec. It may well be time to question this traditional approach since it is clear that many children, in certain areas, already have some mastery of basic ESL reading skills, and may be able to make considerable use of it in the ESL classroom if given the opportunity to do so. In fact, whether the early introduction to the reading skill in ESL is pedagogically sound or not, is almost irrelevant in Québec. The exposure that the child has to written English, through TV, advertising and print, is undeniable and since it is a source which cannot be eliminated, it may be worthwhile capitalizing on it. Figure 4.6, on the next page, illustrates the grouped score on the 1st test for this variable.

Variable 151. Father reads to S in English.

Variable 152. Mother reads to S in English.

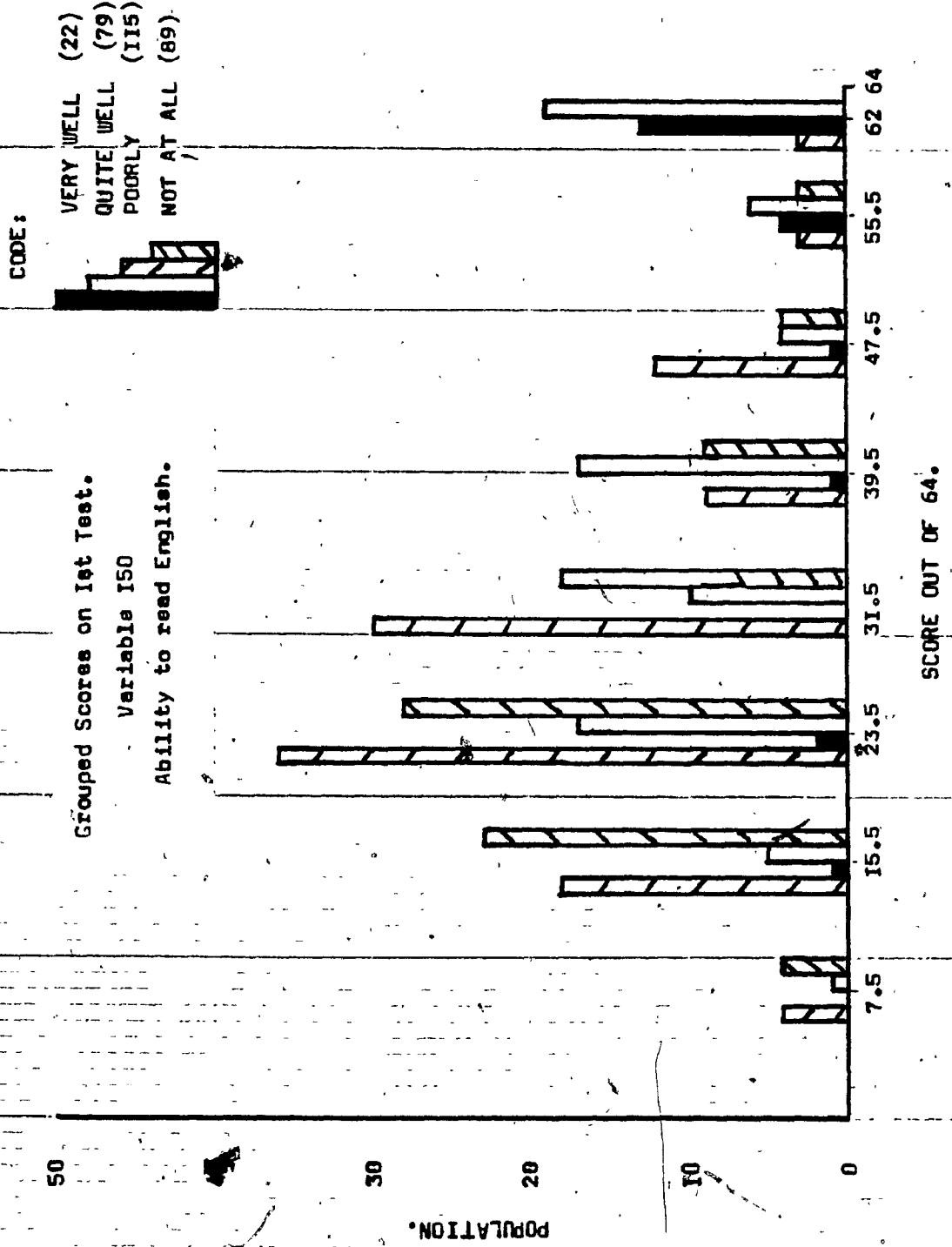
These do not appear to be significant variables. Ss were asked to indicate whether they are read to in English by their father or mother and how frequently. Most Ss answered negatively:

	<u>Father reads to S</u>	<u>Mother reads to S</u>
Often	20 (6)	17 (8)
Sometimes	54 (11)	41 (11)
Never	233 (16)	249 (16)

The number in brackets indicates the number of Ss scoring 60-64 on Test 1.

While this is not a factor which is statistically significant, it does appear to be of some consequence in the acquisition of ESL.

Figure 4.6



The following variables all pertain to TV as a possible source of informally acquired ESL:

Variables 153-156. Four TV channels most watched.

In the Montreal area, the transmission or re-transmission of signals allows four (4) channels to be normally received. They are: channels 2, 6, 10 and 12. The number of channels which can be received by the addition of 'cable' installation increases considerably. Most of the channels are on frequencies assigned to U.S. commercial networks, and include ABC, CBS, NBC and PBS. They are all English-language TV channels. Thus, any TV set with cable facility has a large choice of channels from which to select. However, outside the Montreal area, cable TV channel numbers differ from those in the Montreal area, and so the same TV network will be on two different channels. Thus, quantifiable data regarding the TV networks most frequently watched, is difficult to compile.

Ss were asked to list the four TV channels most frequently viewed.

These are:

1. Channel 10 (French)
2. Channel 12 (English)
3. Channel 2 (French)
4. Channel 6 (English)

that is to say, the four (4) channels normally received in Montreal.

Among the many other TV channels listed, the U.S. networks, i.e., exclusively English-language channels, predominate.

Variables 157-160. Four favourite English TV shows.

Ss were asked to list their four favourite English TV shows. For purposes of analysis, the most frequently cited twelve (12) were retained from the total list of twenty-five (25). (The reader is referred to

Appendix 6, question 16, for the list of twelve).

There is a remarkable degree of consistency regarding the programmes and programme-type most appealing to children of this age level. An attempt was made to analyze some of the programmes mentioned to try to determine the nature of their appeal. The following general observations hold true: the programmes are easy to follow, often humorous, have action-synchronized simple language, have a great amount of visual and verbal redundancy and have some provision for the child to actively respond or participate, for example, by replying to the numerous rhetorical questions which are asked. A more careful analysis of the language content of these programmes may provide some insight regarding the lexical as well as the syntactic levels with which children of this age become familiar.

Variable 161. How frequently S watches English TV.

Variable 162: How frequently S watches his favourite English TV shows.

Variable 173. Number of hours/week S watches English TV.

Variable 173.	Test scores (grouped)	ETA	Lambda	Uncertainty Co-efficient	Chi ²
on 1st		.5020	.0900	.1485	.0006
on 2nd		.4859	.1369	.1336	.0401
4 for both		.5353	.1267	.1661	.0000

It is convenient to deal with these three variables together.

Ss were asked how frequently they watched English TV and only four (4) or 1.3% replied never to the question. These four Ss scored lower on both tests (Test 1, \bar{X} = 15.5; Test 2, \bar{X} = 19.5) than the other Ss but they comprise too small a group to justify analysis.

In variable 162, Ss were asked how frequently they viewed their favourite English TV shows and a majority, one hundred and sixty-eight (168)

or 55.6% replied always to the question, the others replying very often, often or sometimes.

In order to try to determine more precisely the influence of English TV in acquiring ESL, Ss were asked (variable 173) to indicate the number of hours per week that they spent watching English TV. Some of the replies to this question contradicted the information given in variable 163, in that forty-one (41) stated that they watched English TV zero (0) hours/week. It should be noted that they had been instructed to mark down this reply if they watched English TV less than one hour/week and this would account for the discrepancy.

Variable 173 appears to be significant and there is a correlation between the number of hours/week spent watching English TV and test performance. Those children who watch more than the mean average time ($\bar{X} = 4.5$ hours/week) get superior scores on each test.

Table 4.3 on the following page correlates high and low scores with the time spent watching English TV each week.

It is worth noting that there is a high degree of commonality among those scoring highly on both tests. Of the thirty-five (35) Ss scoring 60-64 on the 1st test, thirty-four (34) had an equivalent score on the 2nd test.

One of the major characteristics of English-language TV is its accessibility to almost the entire population of the Province. Some areas are more favoured and enjoy a wide choice of channels, as, for example, the Montréal area. It is a source of language acquisition which can be exploited to a much greater extent.

Figure 4.7, and Figure 4.8, on the following pages, illustrate the grouped scores for both tests for variable 173.

Table 4.3 Test Score Correlated with Hours/Week spent watching English TV

<u>Test 1</u>			
Number of Ss scoring:	0 - 11	52 - 59	60 - 64
n =	9	16	35
<hr/>			
By School Board:			
A	1	8	20
B	4	3	0
C	4	4	12
D	0	1	3
Hours/week watching English TV: $\bar{X} = 1.66$ hrs $\bar{X} = 6.5$ hrs $\bar{X} = 9.8$ hrs			

<u>Test 2</u>			
Number of Ss scoring:	0 - 11	52 - 59	60 - 64
n =	12	21	48
<hr/>			
By School Board:			
A	4	11	27
B	5	3	1
C	3	6	17
D	0	1	3
Hours/week watching English TV: $\bar{X} = 1.66$ hrs $\bar{X} = 4.33$ hrs $\bar{X} = 8.9$ hrs			

Figure 4.7

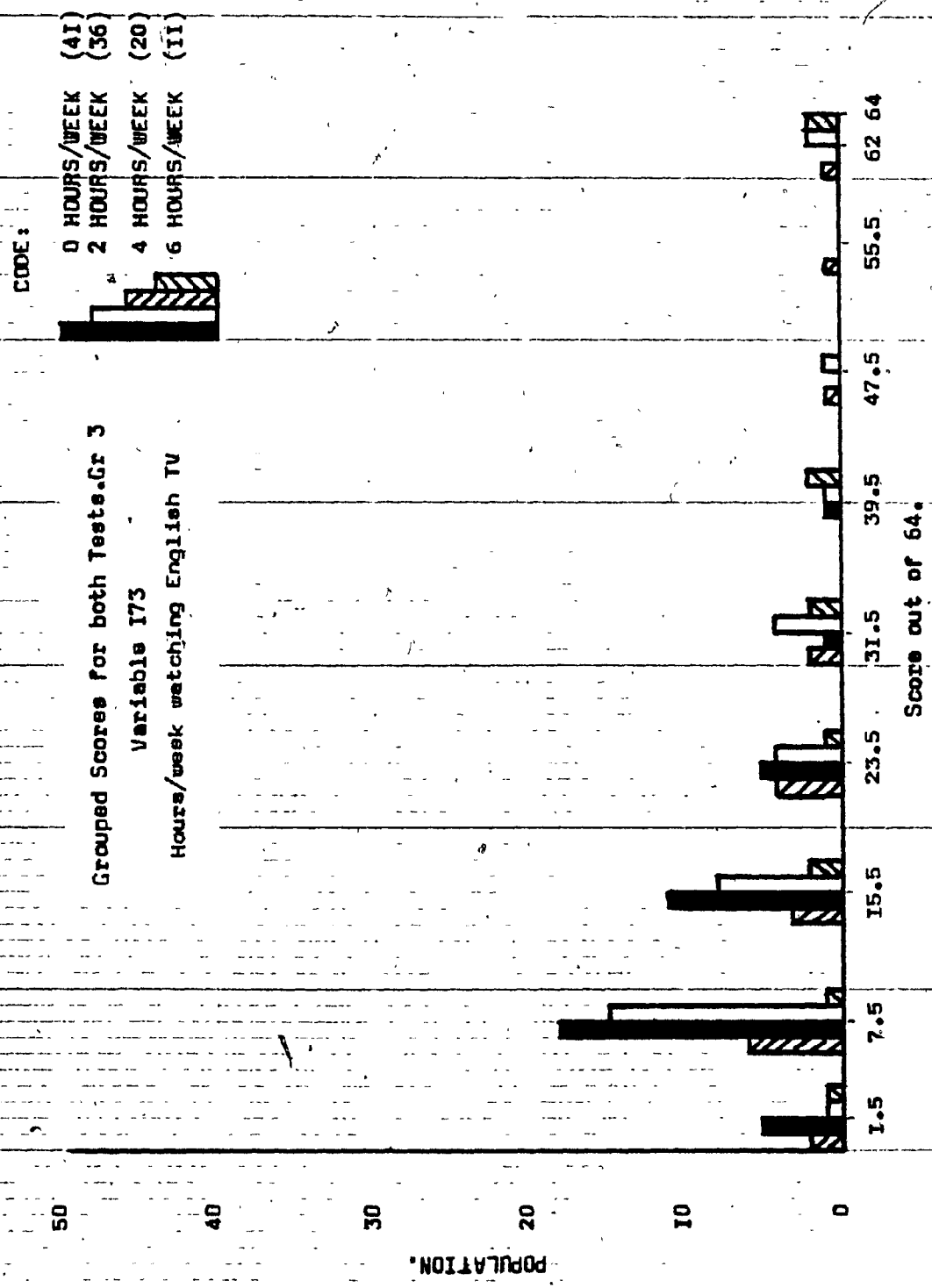


Figure 4.8

CODE:

1 HOUR/WEEK (51)

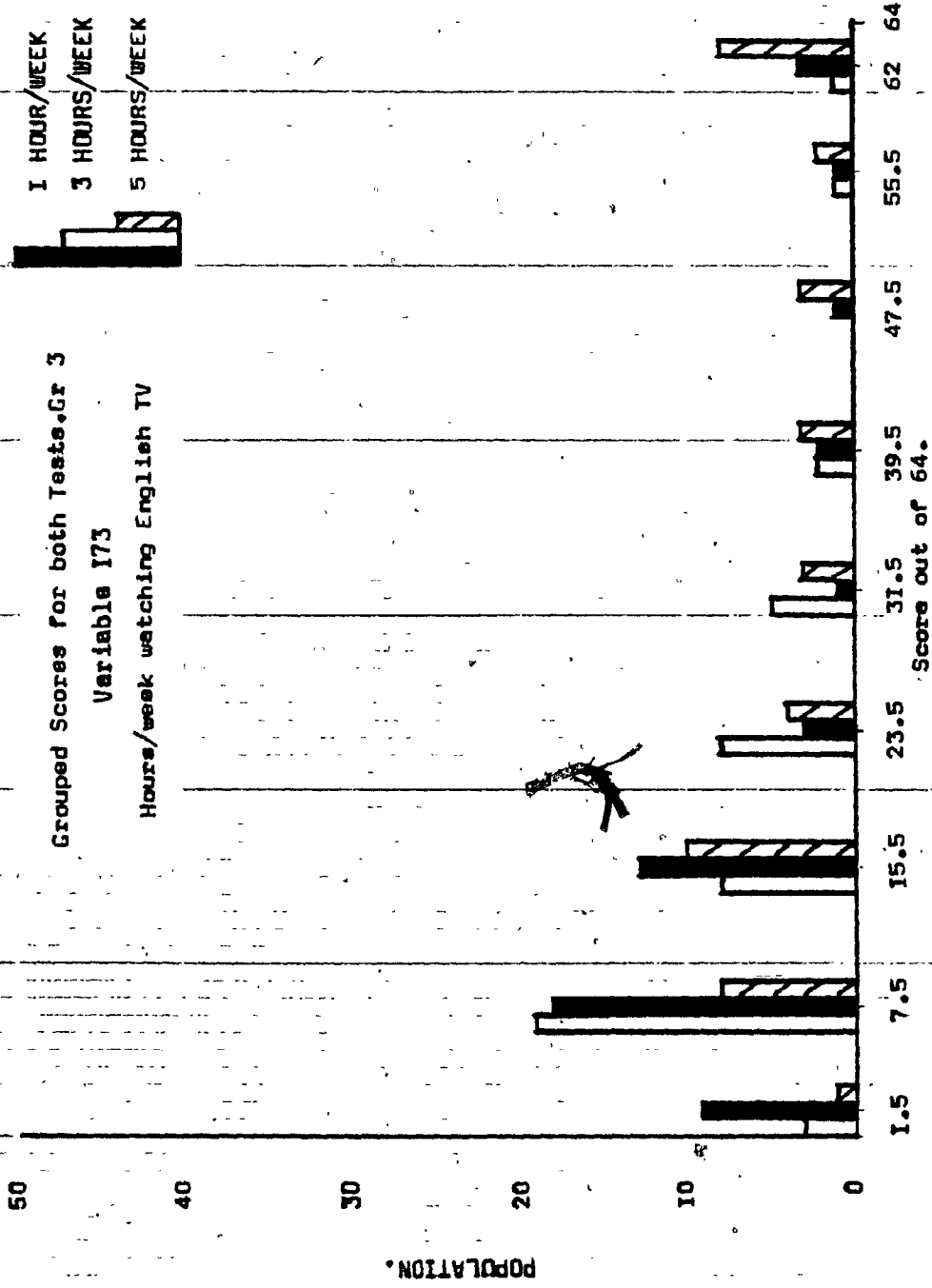
3 HOURS/WEEK (47)

5 HOURS/WEEK (42)

Grouped Scores for both Tests-Gr 3

Variable I73

Hours/week watching English TV



A comparison

An estimate of the influence of English TV on the informal acquisition of English can also be attempted from the following comparison. In this instance, two boys of the same age (8 years), in the same class (School #2) and from the same socio-economic environment (urban, working-class), are compared. The replies to the different variables, and the test scores, are given in the table on the following page.

It will be readily seen from this table that the replies closely parallel each other and that it is primarily in variables 161, 162 that any major dissimilarity is to be noted. While it would not be prudent to draw definitive conclusions without a comprehensive profile of the Ss, it is interesting to note that in Test 1 (visual-written mode) both score highly, despite the claim not to be able to read English at all, and the scores are approximately equal. On Test 2 (visual/verbal mode) on the other hand, there is a marked difference in the scores, the higher result being obtained by the student who admits to watching more English TV. This may be significant in another sense, viz., the greater exposure to spoken English has allowed one S to comprehend English spoken in different accents more readily, so that the taped voice in Test 2 posed no difficulty. (The tape was technically quite acceptable and the voice clear and well-modulated).

Table 4.4 Two Subjects Compared

Variable	S #1	S #2
142: Mother speaks English	never	never
143: Father speaks English	never	never
144: Siblings speak English	occasionally	never
146: Language spoken with friends	French	French
147: With how many persons S speaks English	no	no
149: Ability of S to express himself in English	no reply	no reply
150: Ability to read English	not at all	not at all
151: Father reads to you in English	never	never
152: Mother reads to you in English	never	never
161: S watches English TV	often	occasionally
162: S watches favourite TV programmes	always	often
163: On holiday in English-speaking area	never	once
167: Where/how S learnt the English he knows	no reply	friend
173: Hours/week spent watching English TV	5 hrs/wk	4 hrs/wk
Test 1 ($\bar{X} = 36.59$)*	34	31
Test 2 ($\bar{X} = 44.56$)	53	10

*Figures given are for School #2

Variable 163. Number of times S has been on holiday in an English-speaking area.

Variables 164-166. Location of this place/these places.

It is convenient to deal with these variables together.

Variable 163 appears to have some significance in the informal acquisition of ESL. The ETA on the grouped score for both tests is .3752 and a large proportion of those Ss with high scores on each test are from the group which has been on holiday in an English-speaking area several times. For example, on Test 2, thirty-five (35) of the forty-eight(48) scoring 60-64 on the test, have been on holiday in an English-speaking area several times. This may also reflect the inter-dependence of a number of variables, e.g., a child from a socio-economic level where the means to go on holiday in an English-speaking area are available. A large percentage of the children, 62.0%, have been on holiday in an English-speaking area (primarily the U.S. and Ontario) at least once. In view of the fact that all the children tested live no farther than sixty (60) miles from the U.S. border, it would seem reasonable to expect that many have been to an English-language area, e.g., Plattsburgh, on day trips, perhaps on several occasions. The mean average scores on Test 2 are given:

On holiday in an English-speaking area:

Several times	$\bar{X} = 41.8$
Once	$\bar{X} = 35.0$
Never	$\bar{X} = 29.7$

This variable seems to favour aural comprehension rather than the reading skill.

Variables 167-169. Where and how S learnt the English he has acquired.
(Three replies).

Ss were asked to indicate how and where they learnt the English that they know. On the questionnaire they were asked to write the answer in French, and space was given for three replies. The reader is referred to Appendix 6, question 21 for the complete list of replies of which the most frequently mentioned four (4) are given here:

Home	30.0%	Friends	15.5%
TV	22.7%	Holiday/travel	15.0%

(These figures are from the first reply only.)

It will be seen that quite a large percentage of children have the opportunity to acquire some ESL at home with parents, relatives, friends of parents, visitors, and so forth. Television also appears to be an important source of acquisition as do friends and holidays/travel. The replies shed some light on the linguistic environments most conducive to a child's acquisition of a second language and, by extension, the type of situation which can be most profitably exploited in the ESL classroom.

It should be noted that seventy-four (74) Ss did not reply to this question and this despite the fact that the number of Ss scoring 4-11 on Test 1 and on Test 2 was only nine (9) and twelve (12) respectively.

Variables 170-172. Favourite pastimes/activities of S (three replies).

These are not significant variables. The question was included in order to obtain information relative to the type of theme or activity which can be most usefully incorporated into ESL instruction at the Primary level. The reader is referred to Appendix 6, question 22, for the list of replies to the question.

One pastime/activity predominates: Sports and Play, this reply being given by over half (52.2%) of the repondents. Others which deserve to be mentioned are TV (14.6%) and Reading (9.5%).

Some Ss mentioned particular sports or games when replying to this question, e.g., hockey, chess, but this may be much less important than the fact that children of this age level enjoy, perhaps prefer, group activities and this is in direct contrast to most formal ESL instruction which emphasizes the individual's contribution rather than that of the group. An ESL methodology which incorporates group activity as well as relevant themes may foster a more satisfactory learning environment.

This analysis of the individual variables and their significance has high-lighted several important factors which contribute to the informal acquisition of ESL. In the following chapter, these factors will be re-examined, some conclusions drawn and some recommendations proposed.

Chapter Five

Conclusions and Recommendations

Conclusions

There appears to be strong evidence that the phenomenon of 'informal acquisition' exists and that informal processes play a considerable role in allowing children to achieve varying levels of competence in ESL. The first hypothesis, proposed in Chapter 4, can be considered upheld.

Among the variables discussed, some are more important than others, the most significant relating to the opportunity the learner has to be involved with the second language. In this, it seems that television plays a major part. A combination of significant factors, e.g., access to English TV and to English-speaking people, the opportunity to travel to, or to holiday in, English-speaking areas, etc.; increases the informal acquisition possibilities. In a word, the level of competence attained informally in a second language appears to be directly related to the exposure the learner has to the second language and to the range of experience he encounters in the language.

The second hypothesis proposed in Chapter 4 is thus only partly supported by the findings of this study. The socio-geographic milieu, and the socio-economic levels of the students are significant only in as far as they add to, or detract from, the students' exposure to ESL. The well-to-do urban child whose exposure to English is restricted, by accident or design, demonstrates no greater informal acquisition of ESL than the average-income, rural child whose opportunity to be involved with English is limited by economic or geographic circumstances. At the grade 3 level, at any rate, the working-class, urban child is no less capable in ESL than his well-to-do urban counterpart.

From the research, it would appear that age, cognitive level and experiential knowledge are key factors; the more naive the child, the less

able he is to analyze unfamiliar phenomena in the light of past experience. When the new phenomena are linguistic as well as experiential, the amount of time required for analyzing and processing the 'input' increases considerably. Hence the importance not only of time to allow the information to be processed, but the provision of as many linguistic clues as possible. This appears to be a critical point. The use of imagery, the synchronization of voice with action, the simultaneous presentation of the action (or item) with the verbal referent and, if possible, the written referent, simply provide more opportunity for the learner to comprehend whatever message is being presented.

It should not be particularly surprising that themes with which the child is already quite familiar in his own language, figure prominently among those in which he first acquires linguistic competence (in particular, vocabulary) in the second language. Moreover, the second-language lexicon which is acquired informally, contains a number of cognates and lexical borrowings simply because their form and denotation make them more readily accessible to the learner. Along with cognates and lexical borrowings, of course, those English words which are appropriate to given areas of interest are retained by the child because of their relevance; others are disregarded or forgotten until such times as they become relevant or necessary. When it comes to the selection of vocabulary and themes for inclusion in an ESL manual, the child himself is the surest guide. Among the selection criteria which the child will apply will be that of familiarity since it appears to be unwise to introduce new experiences and new language together. It bears repeating that the child's cognitive level appears to control his linguistic capability.

What is surprising is that so little is known about informal

acquisition' of a second language. Semantic richness, structural simplicity and a wide range of comprehension are three manifestations of it that Savignon (1974, op.cit.) specified when commenting on her son, Daniel's, informally-acquired French. But we know nothing about his manner of practicing, neither how much, nor with whom nor how. If Daniel practiced sounds or structures with the deliberate intention of improving his control of them, then he crossed over into the area of informal learning. We have to know when and why such a transition takes place if a satisfactory theory of instruction is to be proposed. The whole notion of 'informal acquisition' is rich in experimental potential, particularly if it sheds light on some of the processes which enhance second-language learning. The duplication of these processes in the classroom would be a first step in a revised second-language pedagogy.

Recommendations for Further Research.

The present study has shown clearly that many non-Anglophone children in the Province of Québec informally acquire some knowledge of English vocabulary before they begin formal instruction in ESL. The informal processes appear to involve, separately or in combination, the two so-called passive skills, comprehension and reading. The pilot project had already provided some evidence that the speaking skill is also acquired.

However, in resolving the primary question regarding ESL acquisition through informal processes, the study has indicated some associated questions which justify further research. Some of these are briefly outlined here:

1) The range of informally-acquired vocabulary. Vocabulary items associated with only eight themes were included in the major study. While there is sound theoretical and practical justification for selecting the eight themes which were chosen, these surely represent only a small number of the themes (and vocabulary items) which could have been included. There is evidence that certain themes have a particular interest for children of given ages, e.g., family, friends, sports, etc., and it is usual to exploit such themes in the Primary ESL syllabus. But, it would be valuable to establish those themes with a regional, or indeed local appeal, which may have influenced a child's informal acquisition of ESL.

2) Selection criteria for vocabulary. This area of research is closely linked to that outlined in 1).

The selection of vocabulary items for inclusion in ESL manuals is frequently based on such criteria as frequency, range, 'learnability', and so on. In ESL manuals for children, the process of selection has been refined somewhat to include vocabulary and structures used by children in

'free' (but monitored) first language exchanges, the justification being that what a child has to say in his first language is, ipso facto, appropriate material for him to master in a second language.

This approach is only partly satisfactory. It avoids one important, basic question: Why do children, exposed to a considerable range of ESL vocabulary, acquire and retain certain lexical items more readily than others? The Rank Lists in Appendixes 9-14 reveal that such is indeed the case. It may be that factors other than frequency, range, 'learnability', etc., have to be taken into account. Perhaps a child's experiential familiarity with a topic and the vocabulary associated with it constitutes a more important criterion for selection than those currently used. Establishing a lexical map of those items most readily acquired, and accounting for their retention, would provide a useful contribution to learning theory.

3) The phenomenon of informal processes. This topic constitutes a major area of research although the neuro-linguistic processes involved may be easier to describe than to explain. That the phenomenon exists seems indisputable, and a detailed description of the language acquired through informal processes, as in the case of Savignon (1974, op.cit.), or a series of such descriptions, may well provide the ESL syllabus designer with a surer guide regarding what to include in the syllabus.

The selection and gradation of structures in ESL manuals has been based, until quite recently, on the conventional wisdom of moving from the 'simple' to the 'difficult'. This, of course, is very limiting for the child who may wish to say quite sophisticated (i.e., linguistically) things about 'simple' topics, which is not the same thing at all.

A study of informal processes may also shed light on the acquisition strategies involved. Exposure, repetition, familiarity with the situation, the possibility of active involvement, all seem to have a role to play. It would be most useful to have some indication as to how these, and other factors, interact in the informal acquisition process.

Trim (1977) pointed out that a needs analysis "is not to be carried out once and for all as a preliminary to course planning but is an on-going process to be integrated into courses by appropriate feed-back mechanisms". A needs analysis for Primary level children may be less useful than an analysis of the ways children acquire a second language and of the ways in which they use it. The ESL syllabus for the Primary level should incorporate all those components which enhance learning and this includes some provision, perhaps a major provision, for 'informal acquisition'.

As was stated at the outset, education is an expensive business. The need for more cost-effective approaches to ESL instruction is overdue.

References

- Abrahamsen, A. 1977. Child Language: An Interdisciplinary Guide to Theory and Research. (Baltimore, University Park Press).
- Adams, D. 1972. Foreword to: Non-formal Education. An annotated international bibliography. R.G. Paulston (Ed.). (New York, Praeger Publishers).
- Adams, J.A. 1967. Human Memory. (New York. McGraw-Hill).
- Allwright, R.L. 1975. Problems in the study of teachers' treatment of learner error. In Burt, M. & Dulay, H. (Eds): New Directions in Second Language Learning, Teaching and Bilingual Education: On TESOL '75. (Washington, D.C. TESOL)
- Atkinson, R.C. 1972. Ingredients for a theory of instruction. American Psychologist, October 1972, pp.921-31.
- Banko, R. & Smith, B. 1979. Enquête en vue de déterminer l'influence de l'environnement linguistique des élèves des 1er, 2ième et 3ième secondaires sur l'apprentissage de l'anglais, langue seconde. (Québec, M.E.Q.)
- Bennett, N. 1976. Teaching Styles and Pupil Progress. (Cambridge, Harvard University Press.)
- Berliner, D.C. 1968. Microteaching and the Technical Skills Approach. (Palo Alto. Stanford University Press).
- Brown, G. 1975. Microteaching (London. Methuen.)
- Brown, R. (Ed). 1976. Children and Television (Beverly Hills, Calif. Sage Publications, Inc.)
- Burstall, C. et al. 1970. French in the Primary School: Findings of the NFER. (Slough. NFER Publishing Company).

- Cathcart, R. & Olsen, J. 1976. Teachers' and Students' Preferences for Correction of Classroom Conversation Errors. In Fanselow, J. & Crymes, R. On TESOL '76. (Washington, D.C., TESOL).
- Chaudron, C. 1977. Teachers' Priorities in Correcting Learners' Errors in French Immersion Classes. Working Papers on Bilingualism, No. 12, 1977. (Toronto. OISE)
- Chomsky, C. 1969. The Acquisition of Syntax in Children From 5 to 10. (Cambridge, M.I.T. Press).
- Chun, J. 1979. The Importance of the Language Learning Situation: Is "Immersion" the same as the "Sink or Swim" Method? Working Papers on Bilingualism, No. 18. (Toronto, OISE) ED. 180265
- Corder, P. 1977. Language Teaching and Learning: A Social Encounter. In Brown, H.D., Yorio, C., & Crymes, R. On Tesol '77 (Washington, D.C. TESOL).
- Council of Europe, 1975. Education of Migrant Workers' Children in the European Community. (Luxembourg, CCE).
- Curran, C.A. 1961. Counseling skills adapted to the learning of foreign languages. Bulletin of the Meninger Clinic, 25, pp. 78-93.
- Curran, C.A. 1972. Counseling-Learning: A whole-person model for education. (New York. Grune & Stratton).
- D'Anglejan, A. 1978. Language learning in and out of classrooms. In Richards, J.C. (Ed). Understanding Second and Foreign Language Learning: Issues and Approaches. (Rowley. Newbury House).
- Dewey, J. 1954. Experience and Education. (New York, The Macmillan Co.)
- Dittmar, N. & Klein, W. 1977. The acquisition of German syntax by foreign migrant workers. The Heidelberg Project on Pidgin Deutsch. (Unpublished mimeograph).

- Doman, G.J. 1964. How to Teach Your Baby to Read. (New York, Random House).
- Dreher, B. 1974. Children's informal learning of a second language. Language Sciences, No. 31, 1974, pp. 13-17.
- Dulay, H.C. & Burt, M.K. 1973. "Should we teach children syntax?" Language Learning, Vol. 23, 2, 1973.
- Dulay, H.C. & Burt, M.K. 1974. Natural Sequences in Child Second-Language Acquisition. Language Learning, Vol. 24, 1, 1974.
- Ernest, C.H. & Paivio, A. 1969. Imagery ability in paired-associate and incidental learning. Psychon. Science, 15, 1969, pp. 181-182.
- Fathman, A. 1975. Language background, age and the order of acquisition of English structures. In On TESOL '75, Burt, M.K. & Dulay, H.C. (Eds). (Washington, D.C. TESOL).
- Flanders, N.A. 1970. Analyzing Teaching Behavior. (Reading, Addison-Wesley).
- Gage, N.L. 1963. Second Handbook on Research on Teaching. (Chicago: Rand McNally).
- Gagne, R.M. 1974. Educational Technology and the Learning Process. Educational Researcher, January, 1974.
- Guiora, A.Z., Brannon, R.C. & Dull, C.Y. 1972. Empathy and second language learning. Language Learning. Vol. 22, pp. 111-130.
- Hale, T. & Budar, E. 1970. Are TESOL classes the only answer? M. L. Journal, Vol. LIV, #7, pp. 487-492.
- Hale, G.A. & Taweel, S. 1973. Age differences in children's performance on measures of Component Selection and Incidental Learning. (Princeton, N.J. Educational Testing Service) ED. 079358.

- Hammer, P. 1978. Cognates as an efficient approach to second language acquisition. Unpublished doctoral dissertation. (Edmonton. University of Alberta).
- Handscombe, R.J. 1969. Linguistics and Children's Interests. In Fraser, H. & O'Donnell, W.R. (Eds). Applied Linguistics and the Teaching of English. (London. Longman).
- Hauptman, P.C. 1971. A Structural Approach vs. a Situational Approach to Foreign Language Teaching. Language Learning, Vol. 21, 2, 1971.
- Hilgard, E. 1963. Motivation in Language Theory in S. Koch (Ed). Psychology: A Study of Science (Vol. 5) (New York: McGraw-Hill).
- Hymes, D. 1967. Models of the interaction of language and social setting. Journal of Social Issues, 23, 2, pp. 8-28.
- Hymes, D. 1971. On Communicative Competence in J.B. Pride and J. Holmes (Eds) Sociolinguistics (Harmondsworth, England, Penguin Books).
- Ingle, H.T. 1974. Communication media and technology: A look at their role in non-formal education programs. Academy for Educational Development. (Washington, D.C. Info. Center on Instructional Technology) ED. 099002
- Inhelder, B., Sinclair, H., & Bovet, M. 1974. Learning and the Development of Cognition. (Cambridge, Harvard University Press).
- Jakobovits, L., 1970. Foreign Language Learning. (Rowley, Mass. Newbury House).
- Krashen, S.D. & Seliger, H.W. 1975. The Essential Contributions of Formal Instruction in Adult Second-Language Learning. TESOL Quarterly, Vol. 9, 2, 1975, pp. 173-183.

- Krashen, S.D. 1976. Formal and Informal Linguistic Environments in Language Acquisition and Language Learning. TESOL Quarterly, Vol. 10, 2, 1976, pp. 157-168.
- Lagarde, J.P. & Vigier, C. 1974. "L'alphabétisation et insertion linguistique des travailleurs étrangers." Mélanges Pédagogiques. Centre de Recherches et d'Applications Pédagogique en Langues. Université de Nancy 11, France, 1974.
- Larsen, D. 1974. A re-evaluation of grammatical structure sequencing. In R. Crymes and E. Norris (Eds). On TESOL, 1974, (Washington, D.C. TESOL).
- Laylin, J. 1977. ESL on the job. The Jantzen Experience. TEAL Occasional Papers, Vol. 1, 1977. (Vancouver: BCATEAL). ED: 155938
- Levin, J.R. & Allen, V.L. 1976. Cognitive Learning in Children: Theories and Strategies. (New York, Academic Press).
- Long, M. 1977. Teacher Feedback of Learner Error - Mapping Cognitions. Paper presented at the 11th annual TESOL Convention. (Miami).
- Mackey, W.F. 1965. Language Teaching Analysis. (London, Longmans).
- Macnamara, J. 1973. Nurseries, Streets and Classrooms: Some Comparisons and Deductions. Modern Language Journal, Vol. 57, pp. 250-254.
- Malenfant-Loiselle, L. & Jones, J. 1978. Recherche des centres d'intérêts et des besoins langagiers des élèves de 9 à 11 ans en vue de l'élaboration du programme d'anglais, langue seconde, niveau primaire (Québec. M.E.Q.)
- Malenfant-Loiselle, L. 1980. Programme d'étude, primaire, anglais, langue seconde. Version préliminaire. (Québec. M.E.Q.)
- Mason, G. 1965. Children Learn Words from Commercial TV. Elementary School Journal. March, 1965.

- Mead, M. 1964. Continuities in Cultural Evolution. Cited in d'Anglejan, J., 1978, Language Learning In and Out of Classrooms. In Richards, J.C. (Ed). Understanding Second and Foreign Language Learning: Issues and Approaches. (Rowley, Mass. Newbury House)
- Munby, J. 1978. Communicative Syllabus Design. (Cambridge. Cambridge U. Press).
- Noblitt, J.S. 1972. Pedagogical Grammar: Towards a Theory of Foreign Language Materials Preparation. IRAL, Vol. X, No. 4.
- O'Rourke, J.P. 1974. Toward a Science of Vocabulary Development. (The Hague. Mouton).
- Piaget J. 1970. Science of Education and the Psychology of the Child. (New York. Orion Press, Translation).
- Roberts, D.H. 1976. Bridging the gap: Language learning methods employed by Baptist Missions in Eastern Africa. Paper presented at 3rd Annual Conference of the Language Association of Eastern Africa. (Nairobi, Kenya, August 26-29, 1976). ED. 136594.
- Roulet, E. 1975. The contribution of language sciences to diversification of second-language teaching methods in the light of the characteristics of the learners. Presented at a UNESCO meeting on diversification of methods and techniques for teaching foreign languages. (Paris, September 15-20, 1975) ED. 112660..
- Rubin, J. 1975. What the "good language learner" can teach us. TESOL Quarterly: Vol. 9, 1, 1975, pp. 41-51.
- Ryan, D.G. 1960. The Characteristics of Teachers. (Washington, D.C. American Council of Education).

- Ryu, J.S. 1978. Mass media's role in the assimilation process. A study of Korean Immigrants in the Los Angeles area. Paper presented at the Annual Meeting of the International Communication Association. (Chicago, Illinois, April 25-29, 1978). ED. 157108
- Savignon, S. 1972. Communicative competence. (Philadelphia. Center for Curriculum Development).
- Savignon, S. 1974. Talking with my son: An example of Communicative Competence. Paper presented at the Central States Conference on the Teaching of Foreign Languages (Milwaukee, Wisconsin, April 1974). ED. 090794
- Schumann, J. 1975. Affective factors and the problem of age in second language acquisition. Language Learning, Vol. 25, No. 2, 1975.
- Scribner, S. & Cole, M. 1973. Cognitive consequences of formal and informal education. Science, Vol. 182, No. 4112. 1973.
- Sheehan, P.W. 1971. The Role of Imagery in Incidental Learning. British Journal of Psychology, 62, 2, 1971, pp. 235-243.
- Skinner, B.F. 1965. Reflections on a Decade of Teaching Machines: in R. Glaser (Ed) Teaching Machines and Programed Learning II. (Washington, D.C. National Education Association of the United States).
- Slobin, D. 1973. Cognitive pre-requisites for the development of grammar in C. Ferguson and D. Slobin, (Eds) Studies in Child Language Development. (New York: Holt, Rinehart and Winston).
- Smith, J.D. et al., 1972. The Preschooler: Socioeconomic Status, Race and Incidental Learning. Michigan State University, Center for Urban Affairs. Report No. RR-14, March, 1972. ED. 065203

- Strevens, P. 1969. Where has all the money gone? The need for cost-effectiveness studies in the teaching of Foreign Languages. Preprint of private circulation of paper delivered to the Technology Section, Second International Congress of Applied Linguistics, Cambridge, England, September 1969. ED. 036244
- Travers, R.M. 1966. Toward taking the fun out of building a theory of instruction. Teachers College Record, 68, October 1966, pp. 49-60.
- Trim, J.L.M. 1977. Paper presented at a symposium on A European Unit/Credit System for Modern Language Learning by Adults, September, 1977: (Strasbourg. Council of Europe).
- Turney, C. & Clift, C. 1973. Microteaching: Research, Theory and Practice. (Sydney. University of Sydney Press).
- Van Ek, J.A. 1975. The Threshold Level in a European Unit-Credit System for Modern Language Learning by Adults. (Strasbourg. Council of Europe).
- Van Ek, J.A. 1976. The Threshold Level for Modern Language Learning in Schools. (London, Longman).
- Wagner-Gough, J. & Hatch, E. 1975. The Importance of Input Data in Second Language Acquisition Studies. Language Learning, Vol. 25, 2, 1975, pp. 297-308.
- Wilkins, D.A. 1972. The Linguistic and Situational Content of the Common Core in a Unit/Credit System. Systems Development in Adult Language Learning. (Strasbourg. Council of Europe).
- Wilkins, D.A. 1976. Notional Syllabuses. (London, O.V.P.)
- Wilkinson, G.L. 1972. Needed: Information for Cost Analysis. Educational Technology. July 1972.

Winiz, H. & Reeds, J.A. 1973. Rapid acquisition of a foreign language

(German) by the avoidance of speaking. IRAL, 11, 1973, pp. 295-317.

First Research Project

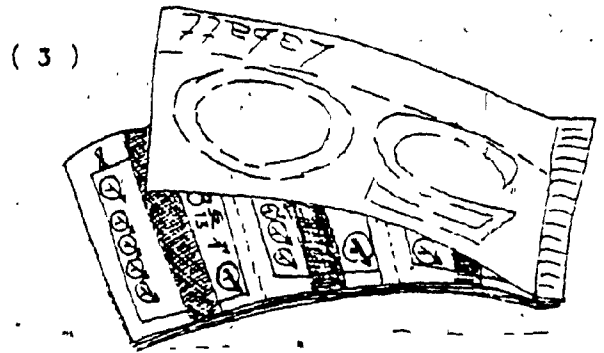
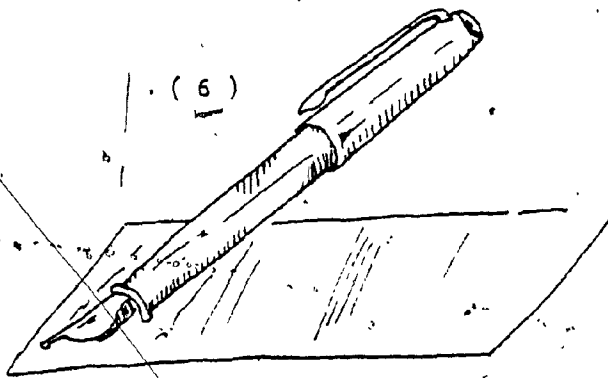
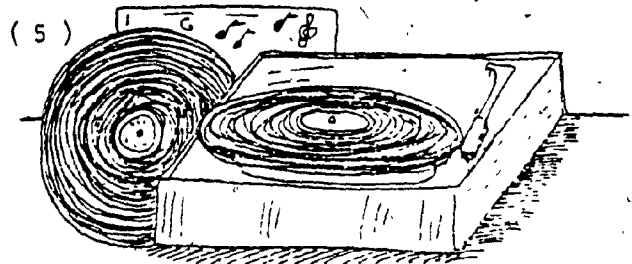
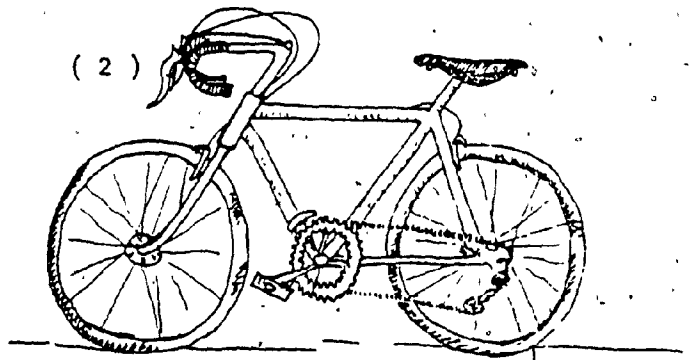
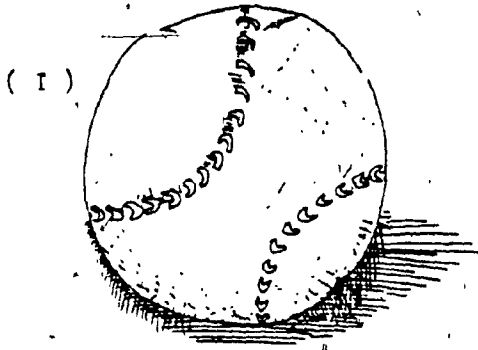
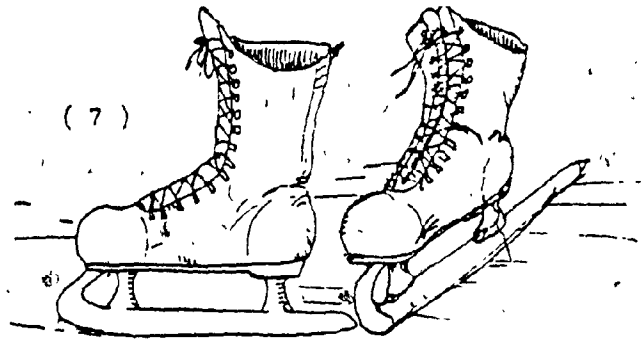
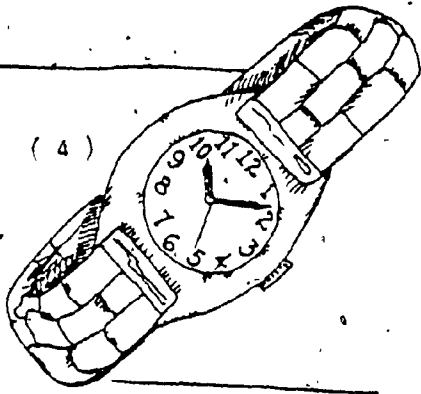
Appendix I.

List of Items in Top 60% of Rank/Frequency Lists, in Alphabetical Order, by Theme:

Theme:	Theme:	Theme:	Theme:	Theme:	Theme:	Theme:	Theme:
	Items in the home	Means of Transport	Places/ Structures	Action Verbs	Clothing	People/ Jobs	Miscellaneous
Food	Bed	Ambulance	Airport	Dance(ing)	Boots	Baby-	Birds
Apple	Chair	Bicycle	City	Eat(ing)	Coat	Boy(s)	Box
Bacon	Door	Bus	Farm	Rain(ing)	Flat	Daddy	Cat
Banana	Flowers	Car	House	Sleep(ing)	Jeans	Dentist	Cowboy
Bread	Fridge	Firetruck	Park	Swim(ing)	Shoes	Doctor	Crayons
Cake	Guitar	Helicopter	School			Family	Dog
Candy	House	Police-car	Tent			Farmer	Eye
Cereal	Keys	School Bus	Zoo			Fireman	Fish
Cheese	Kleenex	Skidoo				Girl(s)	Hand
Cheese S'wich	Light	Taxi				Grandmother	Nose
Chicken	Money	Train				Man	picnic
Chocolate Milk	Piano	Truck				Milkman	Snowman
Coffee	Plant					Parents	Sun
'Coke	Radio					Policeman	Tree
Cup of Tea	TV					Professor	Yo-Yo.
Egg(s)	Telephone					Teacher	
Ginger Ale	Toaster						
Glass of Milk	Window						
Hamburger							
Hotdog							
Ice-cream							
Jello							
Orange							
Orange Juice							
Peanut Butter							
Popcorn							
Soup							
Spaghetti							
Sugar							
Toast							
Tomato							
Tomato S'wich							

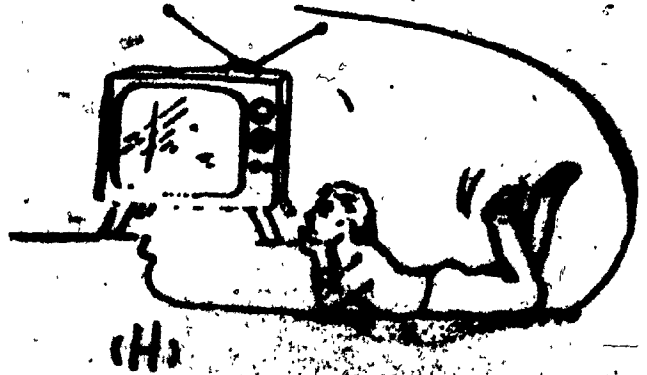
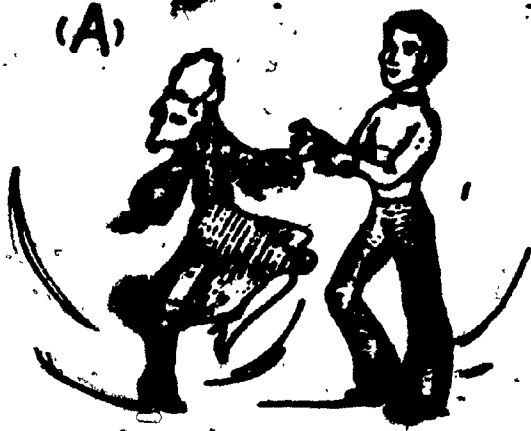
PLUS:
 Colours:
 Black
 Blue
 Green
 Red
 White
 Yellow
 PLUS:
 Cardinal
 Numbers:
 1 - 10.

Appendix 2



RECORDS () TICKETS () BALL () SKATES ()
 BICYCLE () PEN () MATCH () MONEY ()

6



7

Test Items

Order of Presentation: Written Plus Visual Stimuli.

Records	Ice-cream	Swim	Baby	Flowers	Boots	Stamp	Decorations
Tickets	Chicken	Read	Grandmother	Window	Mittens	Box	Presents
Ball	Milk	Eat	Mother	Toaster	Shoes	Dog	Toys
Skates	Apple	Skate	Family	House	Scarf	Tree	Bells
Bicycle	Cheese	Watch TV	Brother	Keys	Jeans	Cat	Snow
Pen	Sugar	Ski	Father	Radio	Coat	Hand	Lights
Watch	Banana	Dance	Grandfather	Bed	Hat	Girl	Christmas Tree
Money	Bread	Drink	Sister	Chair	Sweater	Boy	Star

Presented in a test booklet: eight (8) illustrations per page/eight (8) pages.
Time allowed: one minute, thirty seconds (90 seconds) per page. Answers noted in test booklet.

Order of Presentation: Verbal Plus Visual Stimuli.

Father	Cheese	Keys	Boots	Cat	Skate	Bicycle	Snow
Baby	Sugar	Radio	Mittens	Hand	Watch TV	Pen	Christmas Tree
Sister	Banana	Bed	Jeans	Tree	Drink	Tickets	Star
Grandfather	Milk	Chair	Sweater	Boy	Ski	Ball	Presents
Brother	Chicken	House	Hat	Stamp	Read	Watch	Lights
Family	Ice-Cream	Flowers	Shoes	Box	Eat	Money	Bells
Grandmother	Bread	Toaster	Coat	Girl	Swim	Skates	Decorations
Mother	Apple	Window	Scarf	Dog	Dance	Records	Toys

Presented on projectual: eight (8) illustrations per projectual/eight (8) projectuals.
Time allowed: one minute, forty seconds (100 seconds) per projectual. Answers on an answer sheet.

Second Research Project:
List of Items in Order of Presentation

Appendix 4

Second Research ProjectAppendix 5

QUESTIONNAIRE

NOM: AGE: ECOLE:

OU ES-TU NE?

ENCERCLEZ LA BONNE REPONSE OU ECRIVEZ UNE REPONSE LA OU IL FAUT.

REPONDEZ A TOUTES LES QUESTIONS.

1) QUELLE LANGUE PARLES-TU D'HABITUDE AVEC TA MERE?

FRANCAIS ANGLAIS AUTRE

2) QUELLE LANGUE PARLES-TU D'HABITUDE AVEC TON PERE?

FRANCAIS ANGLAIS AUTRE

3) QUELLE LANGUE PARLES-TU D'HABITUDE AVEC TES FRERES ET SOEURS?

FRANCAIS ANGLAIS AUTRE

4) TA MERE PARLE ANGLAIS

SOUVENT DE TEMPS EN TEMPS JAMAIS

5) TON PERE PARLE ANGLAIS

SOUVENT DE TEMPS EN TEMPS JAMAIS

6) TES FRERES ET SOEURS PARLENT ANGLAIS

SOUVENT DE TEMPS EN TEMPS JAMAIS

7) AS-TU DEJA ETUDIE DANS UNE ECOLE ANGLAISE?

NON OUI SI OUI, OU.....

8) QUELLE LANGUE PARLES-TU AVEC TES AMIS (GARCONS ET FILLES)?

FRANCAIS ANGLAIS FRANCAIS ET ANGLAIS AUTRE

9) EST-CE QU'IL Y A QUELQU'UN AVEC QUI TU PARLES ANGLAIS PARCE QUE CETTE PERSONNE NE COMPREND PAS LE FRANCAIS?

OUI, PLUSIEURS PERSONNES OUI, UNE PERSONNE NON, PERSONNE

10) SI OUI, QUI EST CETTE PERSONNE?

AMI VOISIN PARENTE AUTRE

11) EST-CE QUE TU ES CAPABLE DE TE FAIRE COMPRENDRE EN ANGLAIS AVEC CETTE PERSONNE?

TRES BIEN ASSEZ BIEN PAS TRES BIEN MAL

12) EST-CE QUE TU ES CAPABLE DE LIRE EN ANGLAIS?

TRES BIEN ASSEZ BIEN MAL DU TOUT

13) EST-CE QUE TON PERE TE LIT DES CONTES EN ANGLAIS?

SOUVENT DE TEMPS EN TEMPS JAMAIS

14) EST-CE QUE TA MERE TE LIT DES CONTES EN ANGLAIS?

SOUVENT DE TEMPS EN TEMPS JAMAIS

15) QUELS SONT LES CANAUX DE TELEVISION QUE TU REGARDES LE PLUS?

CANAL CANAL CANAL CANAL

16) QUELLES SONT TES EMISSIONS PREFEREES A LA TELEVISION? (EN ANGLAIS)

1.....

2.....

3.....

4.....

17) EST-CE QUE TU REGARDES LA TELEVISION EN ANGLAIS?

TRES SOUVENT SOUVENT DE TEMPS EN TEMPS JAMAIS

18) EST-CE QUE TU REGARDES TES EMISSIONS PREFEREES?

TOUJOURS TRES SOUVENT SOUVENT DE TEMPS EN TEMPS

19) EST-CE QUE TU PASSES DES VACANCES DANS UN ENDROIT OU IL FAUT PARLER ANGLAIS?

PLUSIEURS FOIS DEJA UNE FOIS DEJA JAMAIS

20) SI OUI, OU EST CET ENDROIT?

.....

21) SI TU AS DEJA APPRIS DE L'ANGLAIS, DIS-MOI OU ET COMMENT TU L'AS APPRIS. (ECRIS TA REPONSE EN FRANCAIS, SI TU VEUX.)

22) QUELS SONT TES PASSE-TEMPS PREFERES?

23) COMBIEN D'HEURES PAR SEMAINE EN REGARDANT LA TELEVISION EN ANGLAIS?

Second Research ProjectAppendix 6

Resumé of Questionnaire Information: (307 Grade 3 pupils).

Question # : Language usually spoken with.....

	French	English	Other	French and English
1. Mother	89.8%	4.3%	3.9%	2.0%
2. Father	89.0%	6.0%	3.7%	1.3%
3. Siblings	92.2%	5.2%	1.5%	1.1%

Question # :speaks English.....

	Often	Sometimes	Never
4. Mother	12.1%	56.1%	31.8%
5. Father	23.0%	51.3%	25.7%
6. Siblings	10.1%	34.8%	55.1%

Question # : S has attended an English school:

7.	No	Yes
	93.1%	6.9%

Question # : Language usually spoken with friends:

8.	French	English	Other	Fr. & Eng.	Fr., Eng., and other.
	75.4%	2.0%	0.3%	21.6%	0.6%

Question # : S has opportunity to speak English with.....:

9.	Several People	One Person	No-One
	22.3%	31.5%	46.2%

Question # : This person/these people is/are:.....

10.	Friend	Neighbour	Relative	Other	Combination
	37.2%	12.8%	27.4%	5.5%	17.1%

Question # : S is able to express himself in English:

11.	Very well	Quite well	Not very well	Poorly
	29.9%	34.1%	28.7%	7.3%

Question # : S is able to read English.....:

12.	Very well	Quite well	Poorly	Not at all
	7.2%	25.9%	37.7%	29.2%

Question # :reads to S in English.....:

	Often	Sometimes	Never
13. Father	6.6%	17.9%	75.4%
14. Mother	5.6%	13.4%	81.0%

Question # : TV Channels which S watches most frequently (up to 4 channels)

Chan #	2	3	4	5	6	7	8	9
15.	77.9%	15.8%	6.9%	9.9%	39.6%	9.2%	6.3%	3.3%
Chan #	10	11	12	17	22	33	57	
	81.5%	2.0%	80.5%	3.3%	15.5%	5.3%	2.6%	

Question # : Favourite English TV shows of S (up to 4 choices);
(Only the most frequently cited twelve are given)

16. Batman	22.6%	Donny & Marie	16.8%	Spiderman	9.4%
Battlestar G.	16.5%	Pink Panther	39.4%	Star Wars	25.6%
Bionic Woman	29.6%	Price is Right	18.2%	Wonder Woman	24.9%
Cartoons	12.5%	Scooby Doo	41.8%	\$6 Million Man	53.5%

Question # : S watches English TV.....:

17.	Very often	Often	Sometimes	Never
	31.5%	28.5%	38.7%	1.3%

Question # : S watches favourite English TV shows.....

18.	Always	Very often	Often	Sometimes
	55.6%	20.2%	9.3%	14.9%

Question # : S has been on holiday in an English-speaking area.....:

19.	Several times	Once	Never
	35.7%	26.6%	37.7%

Question # : This place/these places was/were (space for 3 replies):

20.	USA	Ontario	Québec	Maritimes	Other Prov/Country
	67.2%	15.1%	7.8%	3.1%	6.8%

N.B. Number of replies to this question: 212.

Question # : Where and how S learnt English (space for 3 replies):
(figures for first reply only are given)

21.	Friends	15.5%	Reading	2.6%
	Holiday/travel	15.0%	Relatives	6.0%
	Home	30.0%	School	5.2%
	Listening (people/radio)	0.4%	TV	22.7%
	Neighbours	2.6%		

Question # : Favourite activities/pastimes of S (space for 3 replies):
(figures for first reply only are given)

22.	Sports/play	52.2%	Dancing	4.7%
	TV	14.6%	Holidays/travel	5.8%
	Handicrafts	5.4%	Reading	9.5%
	Music/singing	5.8%	Helping parents	2.0%

Question # : Number of hours/week S watches English TV:

23.	Hours/week:	0	1	2	3	4	5	6	7
		13.4%	16.7%	11.8%	15.4%	6.6%	13.8%	3.6%	
	Hours/week:	7	8	9	10	11	12	14	Over 14
		4.6%	1.6%	3.0%	1.0%	2.0%	1.3%	1.0%	4.2%

N.B. \bar{X} equals 4.5 hours/week.

Second Research Project

Appendix

Statistics from SPSS (Crosstabs) for three sets of scores on each variable.

Variable	Description	Test Scores (grouped)	ETA	Lambda	Uncertainty Co-efficient	Chi ²
03	School Board/ School	on 1st on 2nd for both	.2816 .3218 .2838	0 .0661 .0186	.0493 .0475 .0421	.0006 .0002 .0261
05	Socio-geographic milieu	on 1st on 2nd for both	.2743 .2648 .2431	0 .0495 .0186	.0328 .0340 .0269	.0011 .0002 .0227
06	Socio-economic milieu	on 1st on 2nd for both	.2365 .1849 .1918	.0358 .0041 .0514	.0366 .0229 .0317	.0099 .1346 .0688
08	Sex	on 1st on 2nd for both	.0066 .0061 .0279	0 0 0	.0083 .0068 .0103	.2087 .3279 .1646
09	Age in years	on 1st on 2nd for both	.1698 .1050 .1621	.0090 .0207 .0093	.0211 .1867 .0237	.7063 .8696 .7117
10	Born in Québec	on 1st on 2nd for both	.0502 .0782 .0475	.0315 .0083 0	.0084 .0086 .0073	.1215 .1292 .4087
139	Language spoken with mother	on 1st on 2nd for both	.3898 .3404 .4401	.0540 .0622 .0657	.0556 .0495 .0623	.0000 .0000 .0000
140	Language spoken with father	on 1st on 2nd for both	.3526 .3252 .3905	.0550 .0546 .0574	.0471 .0459 .0544	.0000 .0000 .0000
141	Language spoken with siblings	on 1st on 2nd for both	.2938 .3133 .3497	.0452 .0521 .0372	.0439 .0496 .0522	.0000 .0000 .0000

Variable	Description	Test Scores (grouped)	ETA	Lambda	Uncertainty Co-efficient	Chi ²
142	Frequency of mother speaking English	on 1st on 2nd for both	.3952 .4168 .4337	.9405 .0829 .0563	.0491 .0639 .0619	.0000 .0000 .0000
143	Frequency of father speaking English	on 1st on 2nd for both	.3446 .3598 .3515	.0138 .0548 .0192	.0431 .0456 .0461	.0000 .0000 .0000
144	Frequency of siblings speaking English	on 1st on 2nd for both	.2558 .2953 .3255	.0303 .0571 .0212	.0306 .0378 .0416	.0007 .0000 .0000
145	S has attended an English school	on 1st on 2nd for both	.2037 .2374 .2319	.0225 .0373 .0140	.0124 .0220 .0168	.0180 .0003 .0003
146	Language spoken with friends	on 1st on 2nd for both	.4166 .4155 .4598	.0450 .1120 .0610	.0633 .0619 .0662	.0000 .0000 .0000
147	With how many persons S speaks English	on 1st on 2nd for both	.3818 .4074 .4350	.0585 .0912 .0469	.0534 .0614 .0570	.0000 .0000 .0000
148	Relationship to that/ those persons	on 1st on 2nd for both	.3166 .3805 .3704	.1040 .0588 .1056	.1309 .1193 .1278	.0321 .1125 .0321
149	Ability of S to express himself in English	on 1st on 2nd for both	.5072 .4435 .5280	.1760 .1260 .1707	.1252 .1228 .1228	.0000 .0000 .0000
150	Ability of S to read English	on 1st on 2nd for both	.5214 .4327 .5244	.0585 .1078 .0798	.0998 .0853 .1030	.0000 .0000 .0000

Variable	Description	Test Scores (grouped)	ETA	Lambda	Uncertainty Co-efficient	Chi ²
151	Father reads to S in English	on 1st on 2nd for both	.2043 .2042 .2091	.0091 .0630 .0047	.0251 .0315 .0191	.0101 .0006 .1161
152	Mother reads to S in English	on 1st on 2nd for both	.2889 .2904 .3270	.0405 .0829 .0281	.0370 .0463 .0387	.0000 .0000 .0000
161	Frequency of S watching English TV	on 1st on 2nd for both	.3527 .3174 .3566	.0450 .1037 .0328	.0667 .0540 .0557	.0000 .0000 .0002
162	Frequency of S watching favourite English TV shows	on 1st on 2nd for both	.1198 .1107 .1369	.0090 .0083 .0469	.0161 .0135 .0275	.6612 .7742 .2049
163	Number of times S has been on holiday in an English speaking area	on 1st on 2nd for both	.3479 .3251 .3752	.0405 .0705 .0469	.0562 .0455 .0619	.0000 .0000 .0000
173	Number of hours/week S watches English TV	on 1st on 2nd for both	.5020 .4859 .5353	.0900 .1369 .1267	.1485 .1336 .1661	.0006 .0401 .0000

Second Research Project

Appendix 8

Grade 3

Rank List of Aggregate Scores (All participating Grade 3 pupils).
Non-Cognates and Non-Lexical Borrowings Have Been Offset.

First Test	Second Test
1. Ball	1. Jeans
2. Bicycle	2. Banana
3. To ski	3. Baby
4. Boots	4. To ski
5. Banana	5. Toaster
6. Mittens	6. Mittens
7. To dance	7. Ball
8. Radio	8. To watch TV
9. Family	9. Bicycle
10. Money	10. Father
11. Dog	11. Dog
12. Baby	12. To dance
13. Toaster	13. Chicken
14. Cat	14. Radio
15. Tickets	15. Boots
16. Milk	16. Money
17. Grandmother	17. Milk
18. Jeans	18. Cat
19. Ice-cream	19. Coat
20. To watch TV	20. Shoes
21. Apple	21. Family
22. Records	22. Flowers
23. Sugar	23. Tickets
24. Decorations	24. Apple
25. Chicken	25. Bed
26. Grandfather	26. Cheese
27. Chair	27. To drink
28. Cheese	28. Keys
29. Bed	29. Chair
30. Shoes	30. Grandmother
31. Flowers	31. Girl
32. To drink	32. Boy
33. Boy	33. Ice-cream
34. Bread	34. Grandfather
35. Keys	35. Decorations
36. Girl	36. Sugar
37. Stamp	37. Tree
38. Mother	38. Records
39. House	39. Mother
40. Pen	40. Bread
41. Box	41. Brother
42. Watch	42. Stamp
43. Skates	43. Christmas tree
44. Coat	44. Window
45. Star	45. Pen
46. Window	46. Box
47. Hat	47. Watch
48. Scarf	48. Skates
49. Tree	49. Star
50. To skate	50. House
51. Christmas tree	51. To swim
52. Presents	52. Snow
53. Sister	53. Hat
54. To swim	54. Sister
55. Father	55. Hand
56. Toys	56. To skate
57. Bells	57. Bells
58. Lights	58. To eat
59. Hand	59. Lights
60. Sweater	60. Sweater
61. Snow	61. Scarf
62. To eat	62. To read
63. Brother	63. Presents
64. To read	64. Toys

Second Research Project

Appendix 9

Grade 3.

First Test

Rank List of Correct Results

Ste Croix	Laprairie	Deux Montagnes	Private (Ste Anne)
Ball	Bicycle	Bicycle	Ball
To ski	Ball	Ball	Banana
Bicycle	Boots	To ski	Family
Boots	Banana	Radio	Toaster
Mittens	To ski	To dance	Dog
Banana	To dance	Mittens	Bicycle
To dance	Mittens	Family	Ice-cream
Radio	Radio	Boots	To ski
Family	Money	Banana	To dance
Money	Tickets	Toaster	Radio
Dog	Family	Baby	Boots
Baby	Baby	Dog	Cat
Milk	Toaster	Money	Baby
Cat	Dog	Cat	Jeans
Tickets	Records	Jeans	To watch TV
Grandmother	Cat	Milk	Grandmother
To watch TV	Sugar	Apple	Mittens
Jeans	To watch TV	Ice-cream	Tickets
Apple	Ice-cream	Grandmother	Money
Ice-cream	Milk	Records	Grandfather
Toaster	Chair	Sugar	Chicken
Chicken	Apple	Decorations	Apple
Grandfather	Grandmother	Tickets	Milk
Decorations	Jeans	To watch TV	Sugar
Records	Decorations	Bed	Mother
Sugar	Chicken	Chicken	Decorations
Cheese	Keys	Cheese	Shoes
Shoes	Shoes	Chair	Records
Boy	Flowers	Grandfather	Cheese
Chair	Bed	Flowers	Boy
Bed	To drink	Shoes	Presents
Bread	Grandfather	Coat	Bread
To drink	Watch	Bread	To drink
Flowers	Cheese	Girl	Chair
House	Skates	To drink	Christmas tree
Keys	Stamp	Hat	Star
Mother	Scarf	Keys	Flowers
Girl	Girl	Boy	Girl
Stamp	Pen	Pen	Bed
Window	Coat	Box	Scarf
Box	Boy	Mother	Stamp
Star	Bread	House	Tree
Pen	Sweater	Stamp	Sister
Sister	To skate	Skates	House
To swim	Box	Watch	Bells
Watch	Hat	Scarf	Pen
Tree	Lights	Window	Brother
Skates	House	Star	Father
Toys	Window	To skate	Window
To skate	Tree	Toys	Keys
Father	Mother	Bells	Coat
Ch'as Tree	Ch'as Tree	Ch'as Tree	Hat
To eat	Bells	Father	Skates
Hand	To read	Sister	To read
Presents	Hand	Tree	To skate
Hat	Presents	Presents	Box
Snow	Star	Snow	Hand
Coat	To swim	Lights	Snow
Scarf	Father	To swim	Watch
Lights	To eat	Brother	To swim
Brother	Sister	Hand	Sweater
Sweater	Snow	To eat	Toys
Bells	Toys	Sweater	Lights
To read	Brother	To read	To eat

Second Research Project

Appendix 10

Grade 3

Second Test

Rank List of Correct Results

Ste Croix	Laprairie	Deux Montagnes	Private (Ste Anne)
Baby	Banana	Jeans	Banana
Jeans	Jeans	Banana	Jeans
Banana	To ski	Baby	Baby
Mittens	Baby	Mittens	Toaster
Ball	Toaster	Toaster	To ski
To watch TV	Radio	To ski	Chicken
To ski	To watch TV	Ball	Ball
Father	Dog	Coat	Milk
Toaster	To dance	To watch TV	Ice-cream
Dog	Bicycle	Bicycle	Bicycle
Bicycle	Money	Father	Father
Milk	Mittens	To dance	Grandfather
Chicken	Ball	Shoes	Dog
Boots	Boots	Money	To watch TV
To dance	Father	Dog	To dance
Money	Chicken	Boots	Sugar
Cat	Coat	Cat	Radio
Radio	Bed	Family	Mittens
Family	Flowers	Chicken	To drink
Shoes	Milk	Milk	Family
Tickets	Tickets	Radio	Grandmother
Flowers	Shoes	Flowers	Cat
Apple	Cat	Apple	Tickets
Cheese	Family	Bed	Cheese
Grandmother	Apple	Girl	Shoes
To drink	Keys	To drink	Flowers
Keys	Chair	Keys	Bread
Boy	Grandmother	Cheese	Apple
Bed	Sugar	Chair	Boots
Chair	Cheese	Tickets	Lights
Girl	Ice-cream	Grandfather	Boy
Decorations	Records	Boy	Money
Grandfather	Boy	Ice-cream	Star
Coat	To drink	Watch	Mother
Mother	Girl	Ch'mas Tree	Keys
Brother	Tree	Decorations	Bed
Ice-cream	Stamp	Tree	Chair
Window	Window	Records	Coat
Star	Ch'mas Tree	Grandmother	Girl
Sister	Decorations	Bread	Decorations
Tree	Brother	Sugar	Brother
Stamp	House	Stamp	Pen
Sugar	Pen	Skates	Skates
Bread	Sweater	Brother	Snow
To eat	Box	Mother	Tree
Hand	To skate	Pen	Stamp
House	To swim	Hat	Box
Snow	Grandfather	To skate	To swim
Hat	Bread	To read	Records
Box	Mother	Box	Sister
Records	Hat	To swim	Scarf
To swim	Skates	Bells	To skate
Pen	Snow	Window	Presents
Watch	Scarf	Hand	Toys
Ch'mas Tree	Hand	To eat	Sweater
Skates	To read	House	Hat
Presents	Watch	Sweater	House
Bells	Lights	Scarf	Hand
Lights	Bells	Snow	Window
Toys	Presents	Sister	To eat
To skate	Sister	Star	Watch
Sweater	To eat	Lights	To read
Scarf	Star	Toys	Ch'mas Tree
To read	Toys	Presents	Bells

Second Research Project

Appendix 11

Grade 3.

Both Tests.

Rank List of Items Known in Both Modes of Presentation

Ste Croix	Laprairie	Deux Montagnes	Private (Ste Anne)
Dog (81.1%)	Money (78.4%)	Money (72.0%)	Dog (88.0%)
Money	Dog	Family	Toaster
To ski	Family	Dog	Ice-cream
Grandmother	Apple	Toaster	Family
Family	To ski	To ski	Money
Tickets	Toaster	Apple	Apple
Apple	Tickets	Banana	To ski
Banana	Ice-cream	Grandmother	Grandmother
Toaster	Banana	Records	Jeans
Boots	Records	Ice-cream	Chicken
Ice-cream	Jeans	Boots	Cat
Jeans	Boots	Jeans	Banana
Cat	Grandmother	Tickets	Milk
To dance	Keys	To dance	Sugar
To watch TV	Chair	Sugar	To watch TV
Mittens	To dance	Radio	Tickets
Records	Sugar	To watch TV	Cheese
Bicycle	Cat	Bicycle	Bread
Chicken	Radio	Milk	Boots
Milk	To watch TV	Cat	Boy
Bread	Sweater	Ball	Radio
Boy	Mittens	Chicken	Chair
Sugar	Chicken	Mittens	To dance
Radio	Watch	Baby	Sister
Keys	To skate	Bread	Presents
Star	Bread	Keys	Decorations
Window	Skates	Skates	Ball
Chair	Boy	Watch	Star
Grandfather	Ball	Chair	Records
Ball	Bicycle	Coat	Bicycle
Sister	Milk	Box	Baby
Box	Cheese	Cheese	Keys
Baby	Baby	Boy	Girl
Watch	Coat	Sister	Ch'as tree
Cheese	Shoes	Window	Bells
To skate	Scarf	Bed	Father
Father	Box	Scarf	Sweater
House	Window	Hat	Mittens
Shoes	Hat	Decorations	Bed
Girl	Stamp	Star	Grandfather
To drink	House	Girl	To skate
Flowers	Bells	To skate	House
Bed	To drink	Shoes	Watch
Stamp	Flowers	Bells	To drink
Hand	Decorations	Flowers	Window
To swim	Ch'as tree	Presents	Scarf
Decorations	Sister	Toys	Tree
Toys	Bed	To drink	Box
Ch'as tree	Tree	Mother	Hand
Hat	Girl	Grandfather	Mother
Tree	Pen	House	Skates
To eat	Hand	Ch'as tree	To read
Sweater	Star	Father	Stamp
Skates	To read	Stamp	Toys
Pen	Presents	Snow	Snow
Scarf	To swim	To swim	Lights
Coat	To eat	Sweater	To swim
Presents	Snow	Pen	Brother
Lights	Lights	Lights	Flowers
Mother	Grandfather	To read	Shoes
Bells	Father	To eat	Hat
Brother	Mother	Tree	Pen
Snow	Brother	Hand	To eat
To read (21.7%)	Toys (1.4%)	Brother (14.0%)	Coat (11.1%)

Second Research Project

Appendix 12

Grade 3

Rank List of Aggregate Scores (All participating Grade 3 pupils).

<u>First-Test</u>	<u>Second Test</u>
Ball	Jeans
Bicycle	Banana
To ski	Baby
Boots	To ski
Banana	Toaster
Mittens	Mittens
To dance	Ball
Radio	To watch TV
Family	Bicycle
Money	Father
Dog	Dog
Baby	To dance
Toaster	Chicken
Cat	Radio
Tickets	Boots
Milk	Money
Grandmother	Milk
Jeans	Cat
Ice-cream	Coat
To watch TV	Shoes
Apple	Family
Records	Flowers
Sugar	Tickets
Decorations	Apple
Chicken	Bed
Grandfather	Cheese
Chair	To drink
Cheese	Keys
Bed	Chair
Shoes	Grandmother
Flowers	Girl
To drink	Boy
Boy	Ice-cream
Bread	Grandfather
Keys	Decorations
Girl	Sugar
Stamp	Tree
Mother	Records
House	Mother
Pen	Bread
Box	Brother
Watch	Stamp
Skates	Christmas tree
Coat	Window
Star	Pen
Window	Box
Hat	Watch
Scarf	Skates
Tree	Star
To skate	House
Christmas tree	To swim
Presents	Snow
Sister	Hat
To swim	Sister
Father	Hand
Toys	To skate
Bells	Bells
Lights	To eat
Hand	Lights
Sweater	Sweater
Snow	Scarf
To eat	To read
Brother	Presents
To read	Toys

Second Research Project

Appendix 13

Grade 3

Rank List of Non-Cognates and Non-Lexical Borrowings.

First Test.

Ste Croix	Laprairie	Deux Montagnes	Private	Aggregate
Money	Money	Dog	Dog	Money
Dog	Tickets	Money	Ice-cream	Dog
Milk	Dog	Milk	To watch TV	Tickets
Tickets	To watch TV	Apple	Tickets	Milk
To watch TV	Ice-cream	Ice-cream	Money	Ice-cream
Apple	Milk	Tickets	Chicken	To watch TV
Ice-cream	Apple	To watch TV	Apple	Apple
Chicken	Chicken	Bed	Milk	Chicken
Cheese	Keys	Chicken	Shoes	Cheese
Shoes	Shoes	Cheese	Cheese	Bed
Boy	Bed	Shoes	Boy	Shoes
Bed	To drink	Coat	Bread	To drink
Bread	Watch	Bread	To drink	Boy
To drink	Cheese	Girl	Ch'mas Tree	Bread
House	Skates	To drink	Star	Keys
Keys	Stamp	Hat	Girl	Girl
Girl	Scarf	Keys	Bed	Stamp
Stamp	Girl	Boy	Scarf	House
Window	Pen	Pen	Stamp	Pen
Star	Coat	House	Tree	Watch
Pen	Boy	Stamp	Sister	Skates
Sister	Bread	Skates	House	Coat
To swim	To skate	Watch	Bells	Star
Watch	Hat	Scarf	Pen	Window
Tree	Lights	Window	Brother	Hat
Skates	House	Star	Window	Scarf
Toys	Window	To skate	Keys	Tree
To skate	Tree	Toys	Coat	To skate
Ch'mas tree	Ch'mas tree	Bells	Hat	Ch'mas tree
To eat	Bells	Ch'mas tree	Skates	Sister
Hand	To read	Sister	To read	To swim
Hat	Hand	Tree	To skate	Toys
Snow	Star	Snow	Hand	Bells
Coat	To swim	Lights	Snow	Lights
Scarf	To eat	To swim	Watch	Hand
Lights	Sister	Brother	To swim	Snow
Brother	Snow	Hand	Toys	To eat
Bells	Toys	To eat	Lights	Brother
To read	Brother	To read	To eat	To read

Second Research Project

Appendix 14

Grade 3

Rank List of Non-Cognates and Non-Lexical Borrowings

Second Test

Ste Croix	Laprairie	Deux Montagnes	Private	Aggregate
To watch TV	To watch TV	Coat	Chicken	To watch TV
Dog	Dog	To watch TV	Milk	Dog
Milk	Money	Shoes	Ice-cream	Chicken
Chicken	Chicken	Money	Dog	Money
Money	Coat	Dog	To watch TV	Milk
Shoes	Bed	Chicken	To drink	Coat
Tickets	Milk	Milk	Tickets	Shoes
Apple	Tickets	Apple	Cheese	Tickets
Cheese	Shoes	Bed	Shoes	Apple
To drink	Apple	Girl	Bread	Bed
Keys	Keys	To drink	Apple	Cheese
Boy	Cheese	Keys	Lights	To drink
Bed	Ice-cream	Cheese	Boy	Keys
Girl	Boy	Tickets	Money	Girl
Coat	To drink	Boy	Star	Boy
Brother	Girl	Ice-cream	Keys	Ice-cream
Ice-cream	Tree	Watch	Bed	Tree
Window	Stamp	Ch'mas tree	Coat	Bread
Star	Window	Tree	Girl	Brother
Sister	Ch'mas tree	Bread	Brother	Stamp
Tree	Brother	Stamp	Pen	Ch'mas tree
Stamp	House	Skates	Skates	Window
Bread	Pen	Brother	Snow	Pen
To eat	To skate	Pen	Tree	Watch
Hand	To swim	Hat	Stamp	Skates
House	Bread	To skate	To swim	Star
Snow	Hat	To read	Sister	House
Hat	Skates	To swim	Scarf	To swim
To swim	Snow	Bells	To skate	Snow
Pen	Scarf	Window	Toys	Hat
Watch	Hand	Hand	Hat	Sister
Ch'mas tree	To read	To eat	House	Hand
Skates	Watch	House	Hand	To skate
Bells	Lights	Scarf	Window	Bells
Lights	Bells	Snow	To eat	To eat
Toys	Sister	Snow	Watch	Lights
To skate	To eat	Star	To read	Scarf
Scarf	Star	Lights	Ch'mas tree	To read
To read	Toys	Toys	Bells	Toys