SEMANTIC TRANSPARENCY OF ENGLISH WORDS AND
GRADE FIVE FRENCH IMMERSION STUDENTS

by

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This study examined French Immersion students' use of their knowledge of French when reading in English. Past research suggested that explicit metalinguistic instruction might be necessary for Early French Immersion (EFI) students to benefit from English and French cognates. 24 Grade Five French Immersion students participated in this study. The students completed a French Word Knowledge Task and an English Short Answer Instrument (SAI). Three Metalinguistic Lessons were taught during the 4-week study. A random sample of students participated in two Bilingual Strategy Interviews.

The qualitative results showed a significant increase between pre and post SAI total score, indicating that students benefited overall from the metalinguistic lessons. During the Bilingual Strategy Interviews, students were able to describe the ways they used their metalinguistic strategies to improve comprehension, including recognizing cognates, translating and transferring in both languages.

This research study demonstrated that heightening students' awareness of the potential for cross-lingual transfer helped these EFI students gain more meaning from cognate words.
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LIST OF ABBREVIATIONS

FI – French Immersion
L1 – first language
L2 – second language
EFI – Early French Immersion
AS – Anglo-Saxon
GL – Graeco-Latin
HL – heritage language
FWK – French Word Knowledge Task
SAI – Short Answer Instrument
FSL – French as a Second Language
CHAPTER 1

INTRODUCTION

I was teaching English Language Arts to a class of French Immersion students; we were studying about English subjects, predicates and predicate verbs in sentences. The task was to underline the subject once, the predication twice and identify the predicate verb or verbs by circling them. Many of the students easily located the single verbs in sentences. However, they were completely puzzled when they encountered the following sentence on the board:

“Joey has moved to another city”

One student asked, “Why are we circling two verbs and not one? Moved is the verb in this sentence!” I asked the students to translate the sentence into French. Within seconds they called out Il a déménagé à une autre ville. We wrote this sentence together and repeated the task. Where are the verbs? I asked. Easily they circled a and déménagé. I asked how they knew what to do. Another student observed that it is the passé composé and explained exactly how it is formed (an appropriate form of avoir or être with a participe passé). While gesturing to the English sentence I declared, “Welcome to the English version of passé composé!” “Oh’s”, “ah’s”, and “I see’s” were heard across the room. They understood.
Instead of launching into a discussion on helping verbs (which was to come) and the like, I took advantage of the student’s bilingualism in order to teach a L1 grammar lesson.

A similar situation occurred in the same lesson. “Is” is a verb? Why? There seemed to be no apparent action here – or so they thought. We translated the word. What is the word in French? Est. Is this a verb? Sure, the students concluded, it is one of the first verbs we learn in French. So would its translation ‘is’ then be a verb in English? Probably.

**The Action Research Project**

In my first three years of teaching Grade 4 French Immersion (FI) I had the benefit of being responsible for both the English and French component of the program. In the Board where I taught, English was introduced in Grade 4 and was taught for one hour a day. In Grade 5 the students began the fully bilingual program where the proportion of language instruction in French and English was 50/50. Even though English instruction was only a small portion of the school day, I was expected to satisfy the English language arts requirements for my Grade 4 FI students. Sadly, documents to aid teachers of English to French Immersion students were quite sparse. In addition to the lack of curricula for English to French Immersion, there was a wide range of first-language abilities in my Grade 4 English to French Immersion class. Students struggled considerably with aspects
of English reading and writing. Some students responded meaningfully to a story
read aloud, but found individual reading exercises extremely frustrating. Others
participated enthusiastically during classroom discussions, but detested having to
scribe their opinions. I soon discovered that the Grade 5 teacher also shared my
frustrations with the English component at that grade level. My colleague and I
decided to engage in an Action Research Project that sought to develop an
effective English to French Immersion design that addressed the particular needs of
junior French Immersion students and the first-language requirements of the
Ministry of Education in our province. The program we developed had a ludic
approach in that it was designed to be fun for the students, however, the aim of the
activities was to enhance the students' awareness and knowledge of language. It
focused on the general weaknesses we observed among our students - spelling,
English grammar and English decoding skills. After a year of this program, the
Grade 5 teacher and I noticed a marked difference in the students' attitudes toward
English reading and writing. One surprising observation that we both made was the
students' heightened awareness of language in general. It seemed that our students
enjoyed transferring what they learned about sentence structure and adjectives in
English to French, which helped them make powerful linguistic discoveries. The
system we call language began to make more sense to these bilingual students as
so many linguistic concepts resonated in both languages. As a bilingual teacher, I
found the program more holistic and fluid. Students initiated transfer of knowledge, and deconstruction and analysis of language. The program we developed merely capitalized and played on the bilingual students' natural tendencies. One language seemed to be complimenting the other.

**Research Problem**

An underlying motivation of our action research and the present study was the bringing together of the two language systems possessed by bilingual students. I was teaching a language learner, be it in French or in English. Some of their learning skills and performances may have differed depending on the language in which they were conversing, but the learners themselves did not change. I approached the teaching of the French Immersion child in a holistic manner encouraging the French Immersion students to make use of the full capacity of their language resources when learning either language. If there are opportunities where the knowledge of English could benefit students in their learning of French and/or vice versa, teachers who are in a position to encourage this type of positive transfer should take advantage of it. Furthermore, past research has shown evidence that once English language arts is introduced into the curriculum, French Immersion students not only catch up but even surpass their peers in regular English programs (e.g. Turnbull, Hart & Lapkin, 2000; Cummins & Swain, 1986; Swain & Lapkin, 1982). It seems that once literacy-related skills are established in
one language (whether it be L1 or L2), they transfer readily and rapidly to the other language (Cummins & Swain, 1986). The ebb and flow of general language knowledge in bilingual students' learning can produce the positive linguistic effects I observed among my students.

As the literature review in the next chapter will highlight, there seems to be very little educational research on metalinguistic instruction for French Immersion students. Harley, Hart and Lapkin (1986) demonstrate a possible need for explicit instruction to take advantage of cognate relationships. Hence, the present research attempted to explicitly teach and subsequently to evaluate FI students' ability to transfer knowledge gained in French to language activities performed in English in an effort to incite metalinguistic awareness. As I observed with my junior French Immersion students, teaching learners how to capitalize on their bilingualism seems to be a worthwhile approach. The Action Research project I had completed as a young teacher demonstrated that some bilingual students were spontaneously engaging in language transfer. I also learned that students can benefit from recognising their bilingualism as a resource. The metalinguistic lessons used in the present study were inspired by language transfer exercises in which students engaged naturally and by activities conducted during the Action Research project.
Rationale for the study

The influence of early bilingual instruction on the first language development skills of Immersion students has been a topic of discussion among second language researchers since the introduction of French Immersion in Canada.

"The use of standardised tests of English achievement in hundreds of program evaluations conducted over the past twenty years has permitted researchers to dispel fears of the possible negative impact of French-medium instruction on the first language development of anglophone students" (Lapkin, Swain & Shapson, 1990, p. 640).

Initially, French Immersion students tend to lag behind in their first-language skills during their early Immersion program but in later years catch up and at times even surpass their regular program counterparts on measures of vocabulary knowledge and reading comprehension (Turnbull, Hart & Lapkin, 2000; Swain & Lapkin, 1981). It seems that once literacy-related skills are established in one language - whether it be the first language (L1) or in the second language (L2) - they will transfer readily and rapidly to the other language (Cummins & Swain, 1986).

In the United States (US), researchers have been investigating how bilingual students use the languages they possess while engaging in language activities. A
study conducted in the United States examined the linguistic transfer skills of Spanish-English bilingual students (Nagy, Garcia, Durgunoglu & Hancin-Bhatt, 1993; Hancin-Bhatt & Nagy, 1994). The researchers of this study suggested that cross-lingual transfer may play a role in the recognition of unfamiliar L2 English words. Low-frequency English words with Latin roots may be more transparent semantically for Hispanic students because their cognate forms are high frequency and more everyday words in the students’ L1 (Spanish). There is strong evidence that students do transfer knowledge from their L1 to languages acquired later in life, especially where the two languages have a high degree of structural similarity (Corson, 1995).

Past research has pointed to the benefits cognate recognition has on second language learning. In the learning of French as a Second Language, researchers such as Tréville (1993), Hammer and Giauque (1988) and Turnbull (1999) have sought to understand how knowledge of cognate relationships in two closely related languages like French and English can have positive effects on language learning. “Cognates seem to represent a point of departure for developing knowledge about the semantics of words” (Tréville, 1993, p. 173). However, cognate relationships between languages are only useful for L2 students if the students are able to locate the cognates and know how to use these cognates to make the L2 more comprehensible. The identification of cognates by language
learners is helpful in increasing the amount of stimuli that can lead to global interpretation of an L2 utterance.

French Immersion students are in a good position at a very early stage in their language learning experience to capitalise on their knowledge of English when learning French. The present study examined if the opposite is true: can French Immersion students capitalize on their knowledge of French when working in English? Some research has demonstrated that early exposure to French may have some positive effects on the English skills of Anglophone students in French Immersion (Harley, Hart & Lapkin, 1986). However, the same study suggested that explicit instruction may be necessary in order for students in Early French Immersion (EFI) to fully benefit from English and French cognate knowledge. Corson (1997) proposes that knowledge of word semantic transparency\(^1\) seems an important area for teachers to concentrate on in helping students understand academic English vocabulary. Knowledge of a romance language may offer advantages to students of English by providing etymological information and semantic transparency. One may then postulate that FI students who are exposed to French throughout their early schooling would have a rich resource on which they could draw when encountering English vocabulary words that have Latinate affixes. This potential cross-lingual strategy would only seem effective provided

\(^1\) Semantic transparency – a meaning of a word is enhanced by the way its component morphemes combine in form or sense (Corson, 1995, p. 33)
that French Immersion students are aware that they possess this resource and know how and when to use it.

While there is evidence that suggests that French Immersion students could apply their knowledge of French-English word relationships in practical literacy tasks in English, the poor performance of the Grade 6 Immersion students on the English word recognition task in the Harley, Hart and Lapkin study (1986) cannot be ignored. Before conducting the study, the researchers had hypothesised that the students would perform favourably on this task because of their dual linguistic resource (Harley, Hart & Lapkin, 1986). In their conclusion, the researchers recommended that “in the Immersion context, it could well be that the students’ L1 vocabulary as well as their L2 vocabulary would benefit from instruction that drew attention to cognate relationships between English and French” (Harley, Hart & Lapkin, 1986, p. 313). Cummins (2000) would seem to agree:

When teachers draw students’ attention to similarities and contrasts between their two languages and provide them with opportunities to carry out creative projects on language and its social consequences, students will be enabled to transform their spontaneous use and experience of two languages into a more conscious and “scientific” awareness of their linguistic operations. (p. 195).
The Research Questions

The aim of this research was to examine the language transfer abilities of Grade 5 students in one Early French Immersion class. I examined how students used their knowledge of familiar French vocabulary to make unfamiliar English cognate and morphologically similar words more semantically transparent. The following questions were considered:

1) To what extent do EFI students use French as a language resource when they encounter unfamiliar English words that are cognates or that have morphologically similar affixes?

2) Do EFI students use their knowledge of French when reading in English more frequently after being taught explicitly about positive transfer from French to English?

This thesis is organized in the following manner: Chapter 2 provides a review of the relevant literature concerning the relationships between positive transfer, metalinguistic sensitivity and vocabulary acquisition. It considers, as well, other relevant issues that were addressed in planning my study. Chapters 1 and 2 provide the rationale for the hypothesis being tested in the study. Chapter 3 presents the design of the investigation, the instruments used, a description of procedures followed during the pilot study and the main study and the methods of
analyzing the data. Results are presented in Chapter 4. Chapter 5 discusses the implications of the study for further research and educational practice.

The section that follows reviews the literature in the following areas: positive transfer and cognates, metalinguistic sensitivity and instruction, the Latinate English and French connection, vocabulary acquisition and English to French Immersion research. It should be noted that there is very little literature that directly focuses on transfer and metalinguistic instruction in English to French Immersion. Most studies deal with Spanish-English bilingual students. However, given the exposure to two languages in a school setting, commonalties may be found between Spanish-English students and the French Immersion participants in the present study.
CHAPTER 2

LITERATURE REVIEW

The Organisation of the Literature Review

Although the concept of positive transfer is fairly well accepted in the second language community, it is not often applied to instruction in the French Immersion context. Researchers in the US such as Nagy, Garcia, Durgunoglu and Hancin-Bhatt (1993) have been investigating the potential benefits of positive transfer and instruction in students living in very bilingual environments. French Immersion students living in an anglophone city would also seem to possess a rich dual language resource upon which they can be taught to draw. Falter’s work in 1988 came the closest to proffering an instructional exercise in which French Immersion students use their French in English language activities. The following chapter will review second language research relating to positive transfer, metalinguistic instruction and learning, the linguistic proximity between French and English, vocabulary acquisition and the teaching of English in a French Immersion setting.

Positive Transfer and Cognates

In order to investigate how to develop L1 metalinguistic awareness through the study of L2, a review of positive transfer research provides some salient information. There is evidence that students transfer knowledge from one language
to another (Gass & Selinker, 1983). In a landmark review of bilingual education in Canada called the St. Lambert experiment conducted in 1972, Lambert and Tucker revealed some interesting observations related to EFI students' transfer skills. Firstly, Lambert and Tucker observed the students using "incipient contrastive linguistics" meaning that students compared French and English vocabulary and forms through constant code switching. It became apparent that the children understood certain concepts in English that they probably learned about through French. The St. Lambert researchers referred to the observations of the Russian psychologist, Vygotsky, who analysed the transfer of conceptual development from the foreign language to the native language in studying children learning foreign languages.

[A] child can transfer to [a] new language the system of meanings he already possesses in his own. The reverse is also true – a foreign language facilitates mastering the higher forms of the native language. The child learns to see his native language as one particular system among many. (Vygotsky, 1962, p.110).

The early immersion students in the St. Lambert experiment demonstrated obvious cross-language transfer (French to English and English to French). It was Lambert and Tucker’s impression that,
comparing languages is a very interesting process for the children, and that this children's version of contrastive linguistics helps them immeasurably to build vocabulary and to comprehend complex linguistic functions...For example, it became apparent that the children understood certain concepts in English that they would likely only have learned about through French, not only concepts with cognates in English (e.g., *canine*) but also those without (e.g. *gable*). (Lambert & Tucker, 1972, p. 208).

Much work has been done on the benefits of positive transfer skills from L1 to L2, when languages are structurally related (Hancin-Bhatt & Nagy, 1994). Nagy, García, Durgunoglu, and Hancin-Bhatt (1993) investigated to what extent Spanish-English bilingual students in 4th, 5th and 6th Grade were able to transfer vocabulary knowledge from Spanish to English when reading in English. Drawing on past research that shows a strong correlation between student vocabulary knowledge and their ability to comprehend text, and since many academic English words have Latin roots, the authors hypothesised and found that knowledge of a romance language like Spanish would enhance academic English reading. The participants in the Nagy et. al (1993) study were 74 Spanish-English bilingual students from predominately Hispanic schools. The students were required to read expository texts containing English words with Spanish cognates. Subsequently, students completed multiple-choice tests. The most positive results on these tests
occurred when the students knew the cognate word in one language and they were able to identify it within the word in the other language. The authors suggested that instruction on the use of cognates may help Hispanic students overcome difficulties in English reading. They suspected that bilingual students used cognate awareness to help them read unfamiliar vocabulary in either of their two languages. In a 1993 study, Jiménez (1993) found that expert bilingual readers also capitalized on Spanish knowledge when reading in English, provided that the students were able to recognize the cognate.

Hancin-Bhatt and Nagy (1994) investigated the extent to which 196 4th, 6th and 8th Grade Latino bilingual students could exploit lexical morphological similarities between Spanish and English during English word recognition. In the past, awareness of cognate relationships proved to be an important role in the transfer of knowledge to second language reading. In addition, through past first language studies, there was evidence that morphological awareness is beneficial to vocabulary growth of young readers. Interestingly though, the Hancin-Bhatt and Nagy results showed that older students were more able than younger students to "translate" cognate words. Each gap (between Grade 4 and 6) provided a time when the students learned more about Spanish and English informally and formally and hence the older the student, the wider the language base from which they have to draw.
The results of the Hancin-Bhatt and Nagy study are "consistent with the belief that [bilingual] students can capitalize on their [Latinate] knowledge when reading English, and, in particular, that instruction on relationships between Spanish and English derivational morphology may be helpful" (Hancin-Bhatt & Nagy, 1994, p. 306).

Tréville (1993), Hammer and Giauque (1988), Turnbull (1999), and Harley and Jean (1999), all suggest that cognate relationships between two structurally similar languages can serve as a point of departure for developing knowledge about semantics of words. Previous research has shown that without specific guidance, English learners of French may not take advantage of cognate relationships to help them learn the second language (Harley, Hart & Lapkin, 1986). Tréville believes in the explicit teaching of cognates. She suggests that a teacher should encourage students to locate cognates in various texts in order to reuse knowledge about an item. For beginners, Tréville says that cognate identification serves to increase the number of stimuli that can lead to global interpretation. The teaching of cognate relationships may enhance a learner's comprehension whether learning a second language or examining their first. If it is true that second language students may not make cognate relationships unless explicitly taught (Hart, Harley & Lapkin, 1986), my research aimed to explicitly and systematically encourage metalinguistic and morphological awareness.
**Metalinguistic Sensitivity and Instruction**

In the past, studies have indicated that bilingual children more than monolingual children show heightened metalinguistic sensitivity to language (Falter, 1988). This sensitivity involves the ability to pass over salient meaning issues and focus on the structure of the language itself. The young anglophone students in the St. Lambert experiment (Lambert & Tucker, 1972) who engaged in “linguistic detective”-like behaviour seemed to be quite attentive to the formal aspects of French. Corson (1997) said:

Metacognitive development that improves practical knowledge about word etymology and relationships seems very relevant for both L1 and L2 development. Metacognition includes those learning strategies and other matters of metalinguistic awareness that allow people to control their knowledge of language (p. 708).

In 1988, Falter investigated the effect of English metalinguistic instruction on L1 and L2 literacy development at the Grade 5 level in an Early French Immersion setting. 145 Early Immersion students in Grade 5 were involved in the study. In one experimental lesson throughout the 15 weeks of this study, the students were challenged to make use of their knowledge of French language to solve the meaning of unknown words in English sentences. Unfortunately, the students’ performance on that specific task was not recorded. It is also unfortunate
that this study did not employ a test stressing cognates or English-French morphologically related words as a dependent variable. However, Falter did make some informal observations about the effect of metalinguistic instruction on the Immersion students' performances. About two years after the study, individual experimental children continued to spontaneously point out examples of unfamiliar English vocabulary that they could figure out by thinking about French. Students appeared to enjoy finding relationships between English and French. It would seem that if the students continued to engage in this type of language play (between French and English) after the study, it is possible to conclude that this procedure could be a useful strategy for teachers in French Immersion. “Within the context of Vygotsky’s theory, the greater metalinguistic awareness that bilingualism seems to promote can be seen as an opportunity for teachers to intervene within the zone of proximal development”² (Cummins, 2000, p. 194). Cummins (2000) maintains that in contexts where teachers draw students’ attention to similarities and contrasts between their two languages, two-way transfer frequently occurs and can help to develop metalinguistic awareness among bilinguals. Cummins advocates for helping students make as many connections as possible between languages.

² Zone of proximal development – “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers” (Vygotsky, 1978, p. 86)
Language instruction should give learning a "helping hand" by promoting students' awareness of L1 and L2, their differences and their similarities.

[Bilingual] instruction should focus explicitly on augmenting bilingual students' awareness of language in general and the roles that it plays in their lives. If we keep [the two languages] rigidly separate, then we miss a very significant opportunity to enhance bilingual students' linguistic and academic development. (Cummins, 2000, p. 195)

Falterm (1988) also agrees that educators in bilingual contexts should make the most of the languages in which their students are learning. Falter is one of the few writers in metalinguistic research that advocates the permission of the L1 (English) specifically and exclusively for metalinguistic instruction and learning in the French Immersion classroom. She maintains that solving metalinguistic tasks is a difficult process of consciously reflecting on utterances. "It would be difficult for fifth grade immersion children to perform [metalinguistic tasks] in their weaker language (French) what is already a difficult task for first language speakers" (Falterm, 1988).

One of the aims of the present study is to explore bilingual students' use of L2 (French) in L1 (English) reading. In some respects, the re-introduction of Latin into elementary schooling to promote metalinguistic awareness in English has similar goals. Corson (1994) reviewed the teaching of Latin to senior elementary
classes in the United States (US). The purpose of these courses was not to teach Latin but to promote the English language among inner-city children. The most important aspect of this instruction was the dialogue that took place in these Latin classes that gave students rich contact with many hidden roots of English. The more words are enriched by imagistic and other associations, the more likely it is that they will be retained (Corson, 1994). Early exposure to closely related languages like French and English and specific instruction on how these languages are associated could provide the same type of salient morphological information for French Immersion students as the study of Latin provided for the inner-city child in the US senior elementary schools. The following section will discuss the historical connection between French and Latinate English.

The French-Latinate English Connection

In his book Using English Words, Corson (1994) provides a complete history of the development of the English language. In brief, the development of English in Britain created an exclusive culture of literacy that became institutionalised in formal education, where high value was placed on daily use of Latin and Greek. The emphasis on Latin and Greek explains, at least in part, the greatly enlarged English vocabulary that drew directly from these languages. Anglo-Saxon (AS) words were relegated to marginal status and were replaced by new forms borrowed from Graeco-Latin (GL) words. This led to the creation of a
highly regarded new meaning systems dominated by GL that excluded many who received no formal education in the GL. Even nowadays, academic GL words are mainly literary in their nature. Children's books contain 50% more GL words than either adult prime-time television or the conversations of university graduates (Corson, 1997). In his 1997 article, Corson presents two tables that show frequently used words in everyday Modern English and those used in academic texts. Not surprisingly, the words on the academic list have more Graeco-Latin origins than the words on the everyday list. He points out further that in the study of academic Modern English, great emphasis is placed on knowledge of GL vocabulary and how this practice disadvantages many students without such linguistic experiences. Corson (1997) explains:

Getting access to academic meaning systems is tied to literacy activities in important ways. People get access to them by participating (at least orally) in the culture of literacy and perhaps also by becoming literate. Many children are well placed by language and family background to do this. From their earliest years, they receive natural oral immersion in the culture of literacy of English, or some other language, because their sociocultural contacts and discursive practices position them in a favourable relationship to that culture. Others, depending on their sociocultural position, may require a lexico-semantic range that is very different from that favoured in
the special literate culture of the school and in its academic meaning systems. (p. 678-679)

Corson further explains that in contrast, with only a few exceptions, GL words are multi-syllabic and in their morphemic structure bear great meaning potential. The component parts of GL words no longer carry much meaning for most users of the words in English. The words have lost their semantic transparency. “They no longer carry much perceptible meaning that comes solely from their component parts.” (Corson, 1997, p. 695). A word is semantically transparent when the meaning of the word can be derived from the meaning of its constituent morphemes. Knowledge of a Latin-based language and the ability to transfer this knowledge could possibly restore some semantic transparency to rare Latinate English words. Being able to recognize the more concrete roots of GL words makes the words more semantically transparent for a language user.

The intensive learning of a Latinate language like French would seem helpful in accessing Latinate-based academic meaning systems in English. Immersion students are exposed to French from the beginning of their schooling. Because of their study of French, junior French Immersion students presumably have encountered more Latinate language than their monolingual peers. How does consistent exposure to a Latin-based language affect how French Immersion students process English?
Prolonged courses of second language (L2) or third language (L3) study can offer rich benefits for English L1 development (Corson, 1997). Swain, Lapkin, Rowen and Hart (1990) looked at middle immersion students in Grade 8 and found that students who were literate in their heritage language (HL) performed better on all measures of French proficiency than non-HL students and nonliterate HL students in French Immersion. The study indicated that literacy in a third language added something above and beyond literacy in the first and second language since all students in the study had already learned to read in English and were presently enrolled in a French immersion program. It seems that one of the benefits of learning another language during one's childhood may be semantic transparency and enhanced knowledge of morphological complexities in the other languages acquired, provided that the languages are associated. Corson (1997) stresses that second language learning advantages are especially evident when L1 and L2 are structurally and historically related, as is the case in English and French.

**Vocabulary Acquisition and Reading**

For the present study, it will be important to understand how the brain processes vocabulary. Theories addressing vocabulary acquisition and reading (Chall, 1987; Nation, 1993) suggest that once children become proficient with the mechanics of reading, which normally occurs between the ages of 10 and 12, their vocabulary growth accelerates. Before this stage, children were previously
learning to recognize known vocabulary. As young readers become more proficient, they can use reading to learn new vocabulary. "Because the recognition vocabulary becomes large enough to allow skilful language use (reading), then vocabulary size can be affected by skill in use with the now proficient readers learning new vocabulary from context" (Nation, 1993, p. 117). The teacher's role changes from facilitating recognition vocabulary to facilitating the negotiation of meaning from context. One of the most important strategies recommended for enhancing vocabulary growth is inferring unknown and partially known word meanings from context clues. Nevertheless, one must keep in mind that vocabulary learning is incremental. A single "encounter with a word does not result in the word being learned but does result in some learning that can be added to at the next meeting with that word" (Nation, 1993, p. 127). Some researchers believe that the mental lexicon\(^3\) analyses words as whole units, or as letters, syllables, or blends of sounds and morphemes (Corson, 1997). The mental lexicon's readiness to analyse words depends on the frequency of the person's exposure to the word. When storing polymorphemic\(^4\) words, the mental lexicon responds to the language experiences it meets by changing the ways that it organises and processes the morphemic units of words, including any related transparent meanings that those morphemes carry for the language user. This

\(^{3}\) Mental lexicon – a language user's knowledge of words

\(^{4}\) Polymorphemic – consisting of several morphemes
apparently physical change in the brain occurs in response to language experience and gives an individual's mental lexicon extra nodes of activation for speeding the processing of individual words or in other words more connections in the brain to facilitate new word learning. The potential for activation is great when a bilingual can associate a morphemic unit of an unfamiliar word in one language with a previously acquired and frequently used word in their other language. A bilingual person's storage of this meaning potential in verbal memory can facilitate the acquisition and use of these words within specialist meaning systems (Corson, 1997). My study examined if anglophone French Immersion students could make connections between morphemic units of Latinate English and French during English reading.

**English Language Arts to French Immersion Students**

There is very little research in the context of English to French Immersion in Canada. Neufeld, Arnold, Flaborea, Paterson and St. Lewis (1992), as well as Harley, Hart and Lapkin (1986) explored the effect of intensive French instruction on learners' ability to function in their native English through comparative studies between French Immersion students and their monolingual counterparts. In each of the studies, some evidence that early bilingual education has some positive effects on first-language performance was offered. Neufeld et al. (1992) compared the

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4 Polymorphemic words – a word that possesses more than one morpheme
linguistic performance of English-speaking adults who went through the Early Immersion Program to their adult non-Immersion colleagues. The study participants were 40 native English-speaking university students. The participants completed five tasks measuring receptive lexical richness, active lexical richness, sentence ambiguity, structural and semantic acceptability and sentence creativity. Results showed that the Immersion group was more likely to accept figurative and metaphoric use of English in the structural and semantic acceptability task. In addition, Immersion students seemed to use figurative language instead of the literal constructions used by their non-immersion peers. The researchers in this study tried to account for the difference in the Immersion students’ performance by referring to the focus on meaning instead of form in the earlier years of French Immersion.

In second or foreign language classes where emphasis may be on meaning instead of form, these children might well feel less constrained when communicating with others... It may simply be that, where no conscience raising occurs about the “right” and “wrong” way to talk, the natural growth of metaphor will continue unimpeded. Ironically, the initially relaxed attitude about form that some have challenged as leading inevitably to pidgins rather than normative French, may have benefits hitherto unseen. (Neufeld et. al, 1992, p. 24-25).
Even though the latter study does not deal with the semantic transparency of English words, it does illustrate that early exposure to second language instruction in the French Immersion context may have positive effects on first-language skills.

In the Harley, Hart and Lapkin (1986) study, it was hypothesised that early bilingual education would enhance first language development. Harley, Hart and Lapkin (1986) investigated the effect over time of early bilingual schooling on English skills. The study involved five Grade 6 classes in French immersion and two Grade 6 gifted classes enrolled in the regular English program. In addition, four classes of Grade 6 students from the regular English program were selected as a comparison group. Among the tests administered in the two testing sessions were an IQ test, a vocabulary test and an English cloze test. The results of the vocabulary test demonstrated that there was no evidence that French Immersion students were benefiting from a knowledge of cognates. However, the Immersion participants in this study performed quite favourably on grammatical usage tasks, and on items requiring students to make use of the context of adjacent sentences. Harley et al. (1986) concluded that:

In the area of vocabulary, immersion students might need explicit instruction pointing out cognate relationships between their two languages in order to show vocabulary benefits in the L1... [Nevertheless, the other findings] complement those of other studies indicating an association between
bilingualism and a superior ability to make grammatical judgements in the L1... [In addition,] there are some advantages in discourse skills arising from the experience that immersion students have had in inferring meaning from L2 texts. (p. 317-318)

**Summary of Literature Review**

In summary, past research has demonstrated that students transfer knowledge from the languages that they know. Cognates seem to aid this process. French Immersion students are in an excellent position to draw from their dual language resource in order to derive meaning from morphemic units of English that resemble already acquired vocabulary in French. However Harley, Hart and Lapkin (1986) demonstrated that as an adjunct to the dual lexis resource bilingual students possess, specific instruction may be necessary for students to fully benefit from the metalinguistic potential bilingualism offers them. Falter (1988) attempted to address the effect of metalinguistic instruction on the bilingual literacy skills of selected Grade 5 French Immersion students. The limitation of the latter study was that the author failed to use a test stressing cognates or English-French morphologically related words as a dependent variable.

It seems that there appears to be an age-specific period where students enrolled in Early Immersion programs begin to appreciate the benefits of having been exposed two languages. Three of the four studies that looked at the possible
positive effects early bilingual education had on first-language literacy skills chose students aged 10 to 12. The junior student seems to be an optimal age for testing and teaching metalinguistic skills. Chall in Nation (1993) echoed that early adolescence appears an ideal age when vocabulary growth accelerates. Hence, my study aimed to explicitly train Grade 5 Early French Immersion students to capitalize on their dual linguistic resource (knowledge of French and English) by raising their metalinguistic and morphological awareness. Through the examination of explicit instruction revealing specific French-English connections, early exposure to French may prove to be beneficial to students’ understanding of Latinate and morphologically similar English words.

The review of the literature of positive transfer, metalinguistic sensitivity as a result of bilingualism, vocabulary acquisition and the French – Latinate English connection has led to the formation of a hypothesis in the context of French Immersion programs. This hypothesis concerns the extent to which bilingual students use French as a language resource when they encounter morphologically similar English words and the effect of specific metalinguistic instruction on the decoding skills of bilingual students. It is hypothesized that junior French Immersion students will use their knowledge of familiar French words to help make unfamiliar English more semantically transparent and that their ability to positively transfer from L2 to L1 will increase with training. The following
chapter describes the design and methodology of the study that investigated the aforementioned matters.
CHAPTER 3

DESIGN AND METHODOLOGY

The Origin of the Study

In this chapter, I first review the instruments used in the pilot study and the main study and then, I describe the pilot study. Finally, I present the participants, the procedures and the methods of data collection in the main study.

Instruments Used

French Word Knowledge Task (Appendix A)

The French yes/no word knowledge task (FWK) contained 51 French words that share Latinate origins with related Latinate English words. An article accompanied all nouns. All adjectives in the French Word Knowledge Task appeared in their masculine singular form. All verbs appeared in the infinitive form. These words were selected from three English-French cognate appendices appearing in Hammer and Giauque’s The Role of Cognates in the Teaching of French (1989). This book examines the vocabulary similarities between French and English in an effort to encourage systematic second language acquisition. Hammer and Giauque explore how a heightened awareness of cognates can contribute to second language acquisition and how cognate relationships can be assimilated throughout the entire L2 program. On the French yes/no word knowledge task of the main study, students were asked to indicate whether they recognized the French
word. Drawing on White, Slate and Graves (1989) who suggested that there are some limitations when using yes/no vocabulary tests because it is difficult to determine to what extent a student "knows" a word. I have decided to add a second component ("Can you use the word in a sentence?") to the yes/no task to make students think more about what they really know.

By determining whether students recognize the target French words, it was then possible to assume that students could use this knowledge to understand an English cognate equivalent or a Latinate English word that is morphologically similar. Hence, the words that students reported having recognized on the French Word Knowledge Task were used as guides for selecting the words that appeared on the Short Answer Instrument.

**Short Answer Instrument (Appendix B)**

The Short Answer Instrument (SAI) was an adaptation of the Measure of Passive Vocabulary (Corson, 1995) and measured potential learning about English word meaning from knowledge of French. Included in these instruments were 15 target Latinate English words. The 15 target English words have related French cognates that students indicated they recognized on the yes/no vocabulary recognition test. In this way, it may have been possible for students to draw on their knowledge of familiar French words that share Latin origins with the English
words in the instrument. The English words were given a short phrasal context. In each item, students were be required to:

a) give their definition of an indicated English word

b) indicate what it was about the word that helped with its meaning or how they came up with the definition

c) use the word in a sentence in a way that demonstrated that they understood the meaning of the word

Students had an opportunity to indicate their prior knowledge or experience with the Latinate English word before this study in response to the second question in each item. After having completed the Background Questionnaire, the students were administered the Short Answer Instrument as a pre-test.

In the main study, after three metalinguistic lessons and activities, students were administered the same Short Answer Instrument as a post-test (Appendix B). It was hypothesised that students would use their knowledge of French more frequently when reading in English after explicit instruction about positive transfer.

**Bilingual Learning Strategy Interviews (Appendix D and E)**

In an effort to better understand the bilingual reading strategies French Immersion students employ when working in English, semi-structured interviews were conducted. A random sample of 10 participants was selected to volunteer for the Bilingual Strategy Interviews. The interview conducted in the first week of the
study comprised a 16-question protocol\textsuperscript{5}, an adaptation of the Student Interview used by Jiménez, Garcia and Pearson (1996). The purpose of this interview was to investigate how French Immersion students used the languages they possess in reading activities. The first Bilingual Strategy Interview (Appendix D) required students to think about and respond to:

(i) what they thought about reading in general;
(ii) the similarities and differences between French and English reading;
(iii) the benefits and/or drawbacks of knowing how to read in French and English;
(iv) reading strategies.

Data were transcribed in full in order to identify excerpts pertaining to Immersion students’ use of French and English in cross-lingual tasks. The information that the EFI students provided in the Student Interview served to tailor the pedagogical treatment to meet the students’ specific reading strategy needs. Interview responses were analysed for thematic regularities and patterns related to the research questions using the “perspectives held by subjects” unit and “the strategy codes” unit as described by Bogdan and Bilken (1998).

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\textsuperscript{5} After the pilot study, two questions were omitted from the interview protocol with which most students interviewed in the pilot study had difficulty. Some related questions were combined and a question regarding the language in which students were literate was added.
A second Bilingual Strategy Interview (Appendix E) was conducted during the last week of the study, after the administration of the post Short Answer Instrument. The purpose of this second interview was to give students an opportunity to reflect once more on their use of L1 and L2 in reading activities after having experienced the metalinguistic treatment. Moreover, the interview provided students with an opportunity to give their opinion on the usefulness of the research project itself. The second Bilingual Strategy Interview required students to think about and respond to:

(i) the similarities and differences between a good French and English reader;
(ii) the three metalinguistic lessons and how students thought the lessons would help them in the future;
(iii) the benefits and/or disadvantages of knowing how to read in French and English;
(iv) reading strategies.

The second Bilingual Strategy Interview consisted of 11 questions, seven of which were repeated from the first Interview (Appendix D).

The Treatment

**Metalinguistic Lessons**

Three English lessons were taught during the third week of the main study (Appendix F). Each lesson was metalinguistic in nature concentrating on
encouraging students to use the full range of their bilingual lexicon when encountering an unfamiliar word while reading in English. The lessons were an adaptation of metalinguistic activities used by Falter (1988), Tréville (1993) and Hammer and Giauque (1988). The lessons involved whole-class discussions about reading strategies that students can use when faced with unfamiliar vocabulary. In small groups, students examined sentences containing Latinate and non-Latinate English words; students were then encouraged to discuss how they could draw on the languages in order to help them to gain meaning from these sentences. The Latinate English target words used in the pedagogical treatment were not used in the pre-test or the post-test.

**The Pilot Study**

In early May 2000, I conducted a pilot study in an EFI classroom with students of the same age group and grade level (Grade 5) as in the main study. The purpose of the pilot study was to test the efficacy of the materials, the feasibility of the procedures, and to identify possible problems. The Background Questionnaire (Appendix H), the French Word Knowledge Task, The Bilingual Strategy Interview and the two versions of the Short Answer Instrument\(^6\) were tested during

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\(^6\) Originally, there were two forms of the Short Answer Instrument developed - form A and form B. Both forms of the Short Answer Instrument were identical except for the Latinate English words used in each item. During the administration of the pre-test, half of the class was to receive form A, while half of the class was to take form B. During the post-test, the students were to take the opposite form. This strategy called "counterbalancing" as cited by Brown (1995) is used to minimise the effect of having taken exactly the same test. During piloting, it was discovered that the task of equating the words on both forms was too arduous as it became difficult to discern if there were more salient words on form A than form B. Therefore, it was decided that one version of the short answer instrument to be administered twice was preferable.
the pilot stage. Time constraints did not allow the piloting of the Metalinguistic Lessons. The changes resulting from the pilot study were fairly minor and related only to the Bilingual Strategy Interview and the Short Answer Instrument.

**The Context and the Participants**

The pilot study was conducted in a Grade 5 French Immersion class in an elementary school in an urban centre in Southern Ontario. This school housed an Early French Immersion program which began in Senior Kindergarten and a regular English program. There were 30 participants in the pilot class including 10 boys and 20 girls. Six students in the pilot study spoke English as well as another language at home including French, Italian, Hebrew, Cantonese and Vietnamese. (Appendix I)

**Changes due to Piloting**

The administration of the French Word Knowledge Task, the Bilingual Strategy Interview and the Short Answer Instrument during piloting provided invaluable information regarding the time required for the completion of the various tasks in the main study.

The pilot results of the Word Knowledge Task were used as a guide to select the words that appeared on the Short Answer Instrument of the main study, as is fully described in the Method of Word Choice section in the description of the

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7 Most of the students participating in the pilot study were students that I had taught in previous years. I was therefore quite confident that at one point during their schooling they would have been exposed to activities similar to the Metalinguistic Lessons.
main study. The volunteers who participated in the pilot Bilingual Strategy Interview provided such interesting qualitative information about their observations, thoughts and uses with regard to the use of French and English in their daily language activities, that I added a second Bilingual Strategy Interview to the study. The second interview was designed to further elicit information about students’ reflections on the usefulness of their bilingualism in reading activities after some metalinguistic treatment on that very subject. The pilot process did provide some interesting information regarding the items on the short answer instrument. The instructions on the Short Answer Instrument were improved slightly through some minor editorial changes, and additions, although the content of the instructions remained the same. The analysis of the common responses on the pilot Short Answer Instrument provided a scoring system for the scoring of the Short Answer Instrument in the main study.

**The Main Study**

The following section describes the procedures followed during the main study. Firstly, the context and the participants in the research project are discussed. Next, the administration of four instruments used during the main study is described. This section also contains a detailed account of the observations made during the teaching of the three metalinguistic lessons. Finally, I describe the methods for data collection and analyses.
The Context

Research Setting

The study was carried out in a public school in an urban context in Southern Ontario. This dual-track\(^8\) school houses students from junior kindergarten to Grade 5. In this school board, Early French Immersion is a program in which students receive instruction in all subjects in French, until the end of Grade 2. English instruction began in Grade 3 and at that time students were instructed in English for about 10% of the day. In Grade 4, their English instruction time increased to one hour or 20% of the day. Finally in the year in which the main was conducted, the Grade Five participants were instructed 50% in English and 50% in French by the same bilingual teacher.

The Participants

Student Participants

Twenty-five students in one Grade 5 EFI class, in a large urban school board in Southern Ontario, were recruited as potential participants for my study. Of the 25 potential participants, only 1 child refused consent and therefore did not participate.\(^9\) There were 6 boys and 18 girls who offered to participate. All

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\(^8\) dual-track school – a school which has both regular English program and the French Immersion program

\(^9\) The ethics of the research design was approved by committees at the relevant school board and university. Consent forms were provided for the principal of the school, the classroom teacher and the parents of the 25 participating students. A letter was sent home requesting permission from parents for their child’s participation in the study. Once all parents provided consent, the 25 children were approached for consent. 24 of the 25 students agreed to volunteer to participate in the study. To preserve anonymity and confidentiality, all names that appear in this study are pseudonyms (see Appendix G for letters of informed consent).
students participating in the study started Early French Immersion in Kindergarten.10 11 of the 24 students began the French Immersion programme in Senior Kindergarten, while the remaining 13 students began French Immersion in Junior Kindergarten. All students spoke English fluently. Four students spoke English as well as another language at home including French, Yugoslavian and Korean. All students began the academic year in which the study was conducted at the same school, with the same teacher, guaranteeing consistency of instruction and content amongst the students in this class. (see Appendix J)

**Teacher Participant**

When the main study was conducted, the teacher had five years of teaching experience, all in the French Immersion program at the same school. She had been teaching at the Grade 5 level for two years and was responsible for both the French and the English component of this junior French Immersion class at the time this study was conducted.

**Procedures Followed**

**General Learning Environment – An Orientation Period**

Before I actually began the administration of the instruments in the main study, I visited the participant classroom for one morning in order to get to know

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10 Students who begin the Early French Immersion programme in Junior Kindergarten are between the ages of three and four. Students who begin their French Immersion schooling in Senior Kindergarten have already had one year of Junior Kindergarten in English and then the following year the students begin learning French in Senior Kindergarten. These students are aged between four and five.
the students better and to help the students become comfortable with me in their classroom. On the day of my orientation period, there were 25 students present in the Grade 5 French Immersion class. The students were working on grammar exercises with the help of peers, the teacher, French dictionaries and French resource material (e.g. Bescherelle). The students were given ample time to complete the exercises. As a class, they corrected the exercises on the board. The teacher then showed the students a short film based on a book the class had just finished reading. The teacher showed this film because she felt the students would be motivated by a familiar story line. The film also exposed her students to other examples of oral French. Throughout the morning, the students occasionally interacted in French amongst themselves without constant reminders from the teacher.

**Word Knowledge Task**

The refined yes/no word knowledge task was administered in the first week of the study. It was necessary to assess students' prior knowledge of the French vocabulary that have English cognates or appear as affixes in Latinate English words. The students were administered the same French Yes/No Word Knowledge Task used in the pilot study. During administration of the French Word Knowledge Task, the students were instructed to read the instructions silently to themselves. Then, I read the instructions aloud. In French, I explained to the
students that I was interested in finding out more about words the Grade 5 French Immersion students recognize and could use in a sentence. I further explained that the task they were about to complete would help me learn more about Grade 5 students.

**Method of Word Choice for the target words used in the Main Study**

French words that students indicated that they recognized and could use in a sentence were selected from the French Word Knowledge task and matched with morphologically similar English words. In total there were 18 French words that all the students in the main study identified and said they could use in a sentence. These words compared to those of the pilot study in order to establish that the French words were commonly recognized and used by most Grade Five French Immersion students.\(^\text{11}\) There were nine words that were identified by all the students in the pilot study and all the students in the main study (*utiliser, la terre, juste, un ami, fatigué, la porte, grand, facile, un mouton*). There were 11 other words (*se promener, savoir, proche, le corps, une corde, un rêve, fort, traverser, regarder, jaune, un rouleau*) that were recognized by 23 out of 24 students in the main study. Of these 11 words, five were recognized by all of the students in the pilot study (*le corps, un rêve, fort, regarder, jaune*). We added *se promener* to our

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\(^{11}\) The pilot results of the Word Knowledge Task were used as a guide to select the words that appeared on the Short Answer Instrument of the main study. There were nine French words that both the pilot students and the main study students reported that they all recognized. The English cognate equivalent of these nine words appeared on the Short Answer Instrument of the main study. In this way, students could have potentially made use of the knowledge of the French words they recognized on the Word Knowledge Task in order to define the English words on the Short Answer Instrument.
list of words as there was only one child in both the pilot study and the main study who did not recognize this very common French verb. Together, the 15 French words that were recognized by the majority of students in the main study and the pilot study were matched with 15 English cognates or Latinate English words that are morphologically similar (e.g. Fr. jaune/Eng. jaundice). I compared the list of 15 French words to Hammer’s list (1975) of several possibilities of English words that are either morphologically similar to French words recognized by the students. I then looked up the 15 English words taken from Hammer’s list in a Junior English Dictionary approved by the Ontario Ministry of Education in order to obtain these words in phrasal context (a sentence) and to establish that these English words were appropriate for Junior English students. This Ministry-approved English dictionary had been used by the students throughout the school year. The related English words were used to create the Short Answer Instrument. The majority of the sentences that appeared on the Short Answer Instrument were taken from the sentence example provided in the participants’ classroom dictionary.

The remaining 14 French words recognized by most students on the French Word Knowledge Task were matched with their English cognates or Latinate words that were morphologically similar in the same method as described above. These English words were used during the Metalinguistic lessons and activities.
Bilingual Strategy Interview (Pre-Interview and Post-Interview)

10 volunteers were randomly selected to participate in the semi-structured interviews. The first Bilingual Strategy Interview was conducted during the second week of the study, after the administration of the French Word Knowledge Task and the Short Answer Instrument pre-test. The interviews were conducted individually in a quiet area in the school. Each Bilingual Strategy Interview took between 15 to 20 minutes depending on the length of responses given by the participants. All interview responses were tape-recorded, transcribed and analysed for recurring themes and factors related to L1 and/or L2 use in reading activities. I made an attempt during each interview to continually focus the discussions on the research issues. The factors and themes identified within the pre-interviews were then used to refine and adapt the metalinguistic lessons to more effectively meet the needs of the participating Grade Five French Immersion students.

Short Answer Instrument (Pre-test and Post-test)

The short answer instrument was administered before and after the metalinguistic treatment to determine the progress made by students in their ability to demonstrate understanding of Latinate English words or morphologically similar English words. At the beginning of the administration of the Short Answer Pre-test, I discussed a sample question with the student (e.g., Dave erased the mistake on his paper). Underneath this example were the three tasks required for each item
on the Short Answer test (definition, explanation, and sentence creation). After, I handed out the task and repeated the exact instructions on the Short Answer task. The students were given an opportunity to ask clarification questions. Completion of the Short Answer Instrument, which included explanation of the task and the distribution of papers, took between 30 and 40 minutes.

**Metalinguistic Lesson#1**

Three metalinguistic lessons were taught during the third week of the four-week study. The first lesson included a large group discussion and a brainstorming activity. This lesson lasted about one hour. The first lesson began with students locating countries on a map. Several students went up to the map and pointed out countries that they recognized. Together the class located Canada, Ontario and Toronto. They discussed as a large group what Canada’s official languages are and why. Students responded that Canada’s official languages are English and French because the English and the French are the two major European peoples who explored Canada. The teacher reminded students that before the English and the French came to Canada, Aboriginal peoples of Canada inhabited our nation for centuries and they spoke other languages. The class then located England and France on their map and discussed what properties these nations share. Some of the student responses included that England and France were trading partners and that the two countries belong to the same continent. Students did note that England
and France do not share the same language even though they are located close together. The teacher pointed out that due to the proximity of these countries, English and France have close cultural histories that including similar dress, food, and celebrations. A few students indicated that they knew that English and French were languages which were somehow related to Latin, a language that is no longer spoken. The teacher explained that Latin was spoken by scholars in the past and that Latin influenced the development of several languages including English and French. The class tried to think of where and when they had heard Latin expressions in their lives. Only one student could remember learning Canada’s motto *a mare usta mare* in Social Studies class. The teacher helped the other students by prompting them to think of other Latin phrases often used in English that students may not recognize (e.g., Latin expressions such as *etceteras, versus, alma mater, note bene*).

Next, a brainstorming activity in a Think, Pair, Share\(^\text{12}\) structure was used requiring pairs of students to think about similarities between the English and French languages and jot them down. The teacher circulated and facilitated discussion. Students discussed some words (jaundiced, fatigued) that they remembered from the Short Answer Instrument pre-test. The teacher then

\(^{12}\) Think, Pair, Share — a relatively low risk and collaborative learning structure introduced by Frank Lyman in 1981. The teacher poses an open-ended question, students are given a minute or two to think about it and then the students pair with a collaborative group member to discuss their ideas.
recorded the students’ ideas on a large piece of chart paper. The following ideas were recorded:

- English and French have some words that come from Latin
- English and French share the same alphabet and similar pronunciation (sound system)
- some words in English and French are spelled exactly the same
- some words are spelled the same and have the same meaning in English and French
- both English and French are official languages of Canada
- some words in English and French have similar spelling
- some proper nouns (names) in English and French are the same.

The teacher posted these ideas on the front board of the classroom for the duration of the treatment.

Following the brainstorming, for homework, the Grade 5 students were required to look for examples in English where a word was spelled exactly the same or almost the same as in French and bring these examples to the next class.

The teacher briefly discussed the fact that some of these words may or may not
have the same meaning in the two languages, thus exposing the students to
cognates and false friends\textsuperscript{13}.

\textbf{Metalinguistic Lesson \#2}

The second lesson lasted about 45 minutes. Near the beginning of this
lesson, the students shared the results of their homework assignment and discussed
the English words that were spelled exactly the same or almost the same as in
French and in English. Some examples included \textit{orange, alphabet, television, rose,}
\textit{cart, blue}, and \textit{crayon}. The teacher wrote the examples on a large chart paper. As
a class, they discussed common differences between similar words in both
languages such as the omission of [s] in such words as hospital/\textit{hôpital} and
forest/\textit{forêt}. The class also discussed the use of accents in French words that
are spelled exactly the same as English words like \textit{different/différent}. The students
then helped the teacher organize these words that were spelled the same in French
and in English according to meaning. The students drew an arrow beside the
words from their homework list that were spelled the same in French and in
English that also had similar meanings in both languages.

The teacher then asked the students to read silently to themselves the
following five sentences containing direct cognate and/or morphologically similar
words. These five sentences were mounted on the front board.

\textsuperscript{13}False friends - a false friend is a word in a foreign language which resembles a word in one's mother tongue, but has a different
meaning.
- The waves quickly effaced the footprints on the shore.

- In the book *Wuthering Heights*, Catherine was not a pliable yielding little character who would cry at the smallest insult.

- Ailerons help to keep an airplane level while it is flying.

- The skit will commence promptly at eight in the foyer.

- John is one of those young and extremely talented savant guys, but he’s much more rounded than a savant. He’s a perfectionist who cares as much about the film as the director.

Once the students had read the sentences silently to themselves, one student asked if there was a spelling error in the first sentence. "Are you sure that should be effaced and not erased?" she asked. We assured the students that these were all correctly spelled and grammatically perfect sentences in English. Following the teacher’s instructions, some students read the sentences aloud to the class. The teacher asked these students what words they had difficulty reading and pronouncing. Many of the students indicated that the unfamiliar words like "effaced", "pliable", "ailerons", "foyer" and "savant" gave them some trouble. As a large group, the students pointed out all the words that they did not recognize, had not heard or read before, and those they did not understand. The teacher asked the students to think of ways to figure out what these words mean. The students offered the following suggestions:
• if a word resembles a word in French or in another language with a similar history, you could translate it
• ask a teacher/friend/family member
• use a dictionary
• look at all the other words around it and see what makes sense
• look it up in a thesaurus to find words with similar meanings that you may recognize
• use the Internet to find additional information on the word
• say the word aloud to yourself – you may recognize how it sounds
• take an educated guess

The teacher re-read the suggestion that other languages may help us to understand word meaning in English. She then asked students to identify words in the sample sentences whose meaning could be better understood if one used his/her knowledge of another language. The students easily saw how “effaced” resembled effacer and guessed that it meant to erase or wipe out. They also recognized aile in “aileron” and concluded that it had something to do with the wing of an airplane. Most students knew the meanings of the direct cognates “foyer” and “commence” but were unsure if they had first learned these words in English or in French. “Pliable” and “savant” required more discussion with the teacher about how French could help the students figure out their meanings. The words
“pliable”, “savant” and “yielding” led the class into an interesting discussion of how drawing from French was not always useful as a strategy to find meaning in an English word. The students found it difficult to recognize the French words that were morphologically similar to “pliable” and “savant” and hence chose to use more salient reading strategies like context to gain meaning. At the end of the lesson, the teacher stressed that knowledge of French does not always ensure that one can make sense of unfamiliar English words but it may help. She used the example of the word yielding whose meaning was not discovered due to a knowledge of any French vocabulary.

For homework, the students were asked to find an unfamiliar English word that looked like a familiar French word in a published text. The teacher asked the students to guess the meaning and then check it against the dictionary meaning.

**Metalinguistic Lesson #3**

In the third lesson, the students began the class by sharing their unfamiliar English words that resembled French words collected from books, newspapers and magazines. The lesson lasted about one hour. The class quickly reviewed the list the class developed in the last lesson to help students figure out what words mean. The teacher introduced how to verify one’s figuring out or “decoding” strategies by asking the following three questions: If one meaning of the unknown word is attributed, when the student reads the sentence aloud, does the attributed meaning
make sense in the context of the sentence? If one meaning of the unknown word is attributed, when the student considers the parts of speech in the sentence, what role does the new meaning play? Finally, if one meaning of the unknown word is attributed, and a student thinks about the meanings of the other words in the sentence, does the new meaning really make sense? There was an example sentence on the board:

- A malodorous stench was emanating from the swamp in the woods.

The teacher explained to the students how to check if their decoding strategies were helpful by first guessing the meaning of the unknown words in the sentence. Next, the students were to ask themselves the three verifying questions described above in order to evaluate their guesses. One student read the sample sentence aloud. The class responded that malodorous made them think of the word odour or smell. They also recognized the prefix mal- as a French word meaning bad. The students agreed that “malodorous” had a negative meaning. When the class re-read the sentence using what they had discussed about the word “malodorous” it made sense in the context of the sentence. Together, the class also discussed the words “stench” and “emanating”. They surmised that “stench” probably referred to a smell because it was described by “malodorous”. One student knew the word “emanating” from previous experience but said that the preposition “from” also helped them to figure out the meaning.
The small group activity in this lesson required students to discuss and figure out the meaning of five sentences containing some morphologically similar French-English words. The five sentences were given to a small group of students on a sheet of paper.

1. Read what Asthma Doc has to say about asthma and learn how to avoid another workplace malady called carpal tunnel syndrome.

2. The display of famous Renaissance pieces was cordoned off in the gallery.

3. The caravan of Arab merchants traversed the desert.

4. Where a store is located may enable the owner to vend more products and generate more business.

5. After the gingerbread men were baked, Father and Jasmine used chocolate chips to put droll expressions on the brown gingerbread faces.

The students were asked to discuss and explain the strategies their group used to make sense of the sentences. The teacher read the directions aloud to the groups. They were given approximately 15 minutes to do this task. Most groups found the morphologically similar French-English words and drew on French to try to understand the word. For most of the other unfamiliar English words, students used context to make sense of the words. After the small group work, the students reconvened as a large group to discuss their responses. The following ideas were indicated:
• Syndrome – students thought this was a type of disease, possibly having to do with the lungs because of the mention of Asthma in the sentence.

• Malady – this word made most students think of the French word *malade* meaning sick.

• Cordoned off – students used context to understand this word. There were various guesses at this word meaning including shown off, cut off and closed off. The word ‘off’ and the context of a gallery influenced their guesses the most.

• Renaissance – the students knew this word meant a re-birth because they had recently studied this period in Music classes. They did however recognize “naissance” once their teacher pointed it out to them.

• Traversed – this word reminded students of the French word *traverser* which means to cross.

• Caravan – many students had heard this word used on the popular television show “Where in the world is Carmen San Diego?” and hence could define it.

• Vend – all the students said this looked like the French word *vendre* which made perfect sense in the context of the sentence.

• Droll – the students reported that even though it was spelled differently they thought this word meant funny like the French word *drôle*. 
The teacher ended the lesson by reminding the students that drawing on their French knowledge to decode English words can be helpful but does not always work for each unfamiliar English word they may come across. She also reminded students of a past discussion they had obviously had in this class previous to this research project about faux amis like sensible and sensitive.

**Scoring Procedures and Data Analysis**

**Quantitative Data**

In order to analyze the responses given on the Short Answer Instrument pre-test and post-test), the computer program SPSS version 7.5 for Windows98 was used for quantitative data analysis.

On the Short Answer Instrument (SAI), there were three items to which the participants had to respond for each of the 15 morphologically similar words embedded in phrasal prompts. They were:

- Tell me what the word means (Item A);
- What was it about the word that helped you with its meaning? (Item B);
- Make up a sentence using the underlined word (Item C).

The three items relating to each word were open-ended. Therefore, for quantitative analysis, the responses were categorized into recurring issues. A 3-point Likert scale was used for the Item A “Tell me what the word means” and
Item C “Make up a sentence using the underlined word” was developed after the scoring of the Short Answer Instrument responses during piloting.

For the responses to the word definition task (Item A), the Ministry-approved classroom dictionary present in the participants’ classroom was used as a reference for scoring this item. In 1992, Razika Sanaoui performed a study that examined how adult learners of French as a Second Language (FSL) approached vocabulary tasks. In her study, participants were required to explain the meaning of a given lexical item. The responses were given 2 points for supplying a meaning that is supported by a published dictionary and 0 point if the participant explanation was not supported by a published dictionary. Similarly, the word definition responses in the present study were coded from zero to two, on the Likert scale, whereas zero represented the most inaccurate definition of the word and two represented the most accurate definition. Students who did not provide a definition also scored a zero.

Sentences created in response to the third task (Item C) “Make up a sentence using the underlined word” were also coded from zero to two. Sentences that made no sense or did not contain the underlined word received a zero. Sentences that made some sense but were not grammatically correct scored a one. Finally, sentences that made total sense and expressed a meaning that was identical to the
dictionary meaning received a two. Students who did not create a sentence at all for this task also scored zero.

The second task (Item B) “What was it about the word that helped you with its meaning?” garnered multiple responses and therefore the answers were coded into eight categories. The results of the pilot Short Answer Instrument helped to develop the qualitative scoring system based on the trends in the pilot responses. Students attributed their ability to define a word in various ways from thinking about French or obtaining clues from surrounding words to thinking about similar English words. There was a category provided for students who did not write a reason for how the word helped them come up with a meaning.

Table 1 summarizes the categories for each question.

**Table 1. Scoring Procedures for the Short Answer Instrument Questions**

**Item A: Tell me what the word means:**
2 = definition same as one of dictionary meanings
1 = definition close to one of dictionary meanings
0 = definition not at all or N/R

**Item B: What was it about the word that helped you with its meaning?:**
- no / I don’t know / no reason
- I guessed (wild)
- I thought about French
- cues from other words in the sentence/ the context
- previous experience with the word in English/ prior knowledge
- word made me think about a similar word in English (affix)
- word made me think of another word in English
- miscued / incomprehensible
Item C: Make up a sentence using the underlined word:
2 = student made a sentence
   = the sentence makes total sense
   = the sentence is accurate with dictionary meaning
1 = student made a sentence
   = the sentence does not make total sense
   = the sentence is not 100% grammatically correct
   = the student recognizes the Latin origin but uses another meaning
0 = no sentence
   = student made a sentence but it makes no sense at all
   = did not use underlined word in the sentence

To check the reliability of the scoring and coding of the Short Answer Instrument, a second scorer rated all of Short Answer Pre-tests and Short Answer post-tests. 97% agreement was achieved for the pre-test and 96% for the post-test after discussion of all scoring and coding decisions.

In an effort to identify how often student responses were reported, frequencies were calculated for the three items for each word. To identify significant changes in pre-test and post-test answers for the 15 words, three different analyses were conducted. Scores for Items A and C for each word were also summed to create an overall total score. The highest possible score for each word was 4 and the highest possible overall score for each participant for the 15 words was 60. For all three comparisons, differences in mean test scores (with 95% confidence intervals) were calculated using paired-sample t tests (i.e., for two related means), with statistical significance in score changes (pre-test vs. post-test) set at $p \leq 0.05$. 
In order to determine whether the students improved by using French to help identify the 15 words, codes for Item B were collapsed into the following dichotomous variables: 1 = “Used French to help define the word” and 2 = “Did not use French to help identify the word”. Statistical analysis of the results were summarized and a comparison of pre-test versus post-test responses to Item B were calculated using the McNemar test for two related proportions. Statistical significance was set at \( p \leq 0.05 \).

**Qualitative Data**

The qualitative data from the Bilingual Strategy Interviews were taped and transcribed in full. The transcripts were then analyzed for common themes and patterns relating to students’ use of L1 and L2 in reading activities and participant comparisons between the languages in which they read. To get a sense of the number and nature of these comments, a tally was made and then edited for the most common responses. A qualitative coding scheme was developed based on these common responses. Once common themes had been extracted from the data, the scheme to code the data according to content was revised to facilitate analysis. The qualitative data were then re-analyzed for patterns according to the content of the categories included in Table 2.
Table 2. Categories Used to Code the Qualitative Data from the Bilingual Strategy Interviews

- Pronunciation Issues
- Grammar – any general comments relating to syntax or lexicology
- Meaning – any general comments relating to semantics
- L2 helping during L1 language tasks
- L1 helping during L2 language tasks
- Spelling
- Language issues inherent only to French (French vocabulary, French grammar, French accents, gender)
- L1/L2 comparisons (sound system, alphabet, cognates, morphologically similar words, punctuation)
- Latin
- Using context as a comprehension strategy while reading
- Using a dictionary as a comprehension strategy while reading
- Asking for help from someone as a comprehension strategy while reading
- Interference with pronunciation
- Interference with spelling
- Benefits of bilingualism (increased reading, increasing vocabulary)

When the Bilingual Strategy Interview comments were coded, each comment could have received multiple codes because participants often alluded to more than one issue within the same comment. To check the reliability of the Bilingual Strategy Interview coding scheme, a second coder rated a random sample of four interviews, two pre-interviews and two post-interviews. Ninety-four percent agreement was obtained for the pre-interview and 91.1% agreement was achieved for the post-interview.
Summary of Design and Methodology

This chapter described the instruments used in the pilot and main studies. Next, the participants, and the procedures for the pilot and the main studies were presented. Finally, there was a summary of the scoring procedures and analysis process. The findings from this research process are described fully in Chapter 4 to address the research questions posed in Chapter 1:

1) To what extent do EFI students use French as a language resource when they encounter unfamiliar English words that are cognates or that have morphologically similar affixes?

2) Do EFI students use their knowledge of French when reading in English more frequently after being taught explicitly about positive transfer from French to English?
CHAPTER 4

QUANTITATIVE RESULTS

This chapter reports the results from my study in two sections. The first section outlines the results of the Short Answer pre-test and post-test along with a discussion of the overall student performance on the Short Answer Instrument. This section also includes descriptive statistical breakdowns of the findings from this research. In the second section, a summary of the observations and findings from the Bilingual Strategy Interviews is presented.

Short Answer Instrument Pre-test

The short answer pre-test was administered to 24 participants. There were three items appearing on this instrument. The participants were required to define the meaning of a word (Item A) and to make up a sentence using the word in the prompt (Item C). The two latter tasks were scored on a 3-point Likert scale. In order to complete the Short Answer Instrument, students were also required to explain how they came up with a meaning for the word in the sentence prompt (Item B). Since the participant explanations varied considerably, the Item B responses were coded into eight categories.

Table 3 summarizes the results of the word definition task (Item A). Of the 15 words, 50% or more of the students were able to correctly define the following words with a dictionary-like definition: promenaded \(n=19, 79.2\%\), regarded
(n=19, 79.2%), utilize (n=16, 66.6%), fortify (n=14, 58.3%), facilitate (n=14, 58.3%). Some words were obviously more salient than others, even without any instruction on using French as a resource. Of the 15 words, 50% or more of the volunteers were able to give a definition that was close to that of the dictionary: corps (n=16, 66.6%) and fatigue (n=13, 54.2%). Of the 15 words, 50% or more of the students were unable to define correctly the following words: justify (n=21, 87.5%), jaundiced (n=18, 75%), terrestrial (n=14, 58.3%) and portal, grandeur and reverie (n=13, 54.2% for each). The only word for which no student was able to give a dictionary-like definition was grandeur.

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition not at all like dictionary/No response</th>
<th>Definition close to dictionary</th>
<th>Definition same as dictionary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
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<tr>
<td>Fatigue</td>
<td>8</td>
<td>33.3</td>
<td>13</td>
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<tr>
<td>Jaundiced</td>
<td>18</td>
<td>75.0</td>
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<tr>
<td>Fortify</td>
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<td>29.2</td>
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<td>Terrestrial</td>
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<td>Mutton</td>
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<td>41.7</td>
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<tr>
<td>Utilize</td>
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<td>16.7</td>
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<td>Promenaded</td>
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<td>12.5</td>
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<td>Regarded</td>
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<td>16.7</td>
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<td>Portal</td>
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<td>54.2</td>
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<td>Grandeur</td>
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<td>Justify</td>
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<td>87.5</td>
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<td>Facilitate</td>
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<td>Corps</td>
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<td>Reverie</td>
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<td>54.2</td>
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<tr>
<td>Amiable</td>
<td>9</td>
<td>37.5</td>
<td>5</td>
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</table>
During the second task (Item B) on the Short Answer Instrument, students were required to explain the strategies they used to define the word highlighted in the sentence prompt. Table 4 summarizes the student explanations for how they came up with the meaning of the 15 words. Of the 15 words, 50% or more of the students indicated that they used French to help them understand the meaning of the word for the following words: regarded (n=15, 62.5%), grandeur (n=14, 58.3%), fatigue (n=12, 50%).

Table 4. Pre-test results of SA1 – Item B (What was it about the word that helped you with its meaning?)

<table>
<thead>
<tr>
<th>Word</th>
<th>No/Don't know/No reason</th>
<th>I guessed</th>
<th>I thought about French</th>
<th>Took cues from other words in sentence/context</th>
<th>Had previous experience with English words</th>
<th>Miscued/Incomprehensible</th>
<th>Made think about similar English word</th>
<th>Made think about another English word</th>
</tr>
</thead>
<tbody>
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<td>Fatigue</td>
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</table>
Table 5 summarizes the students' ability to write the 15 words in a sentence. Fifty percent or more of the students were successful in writing a sentence that made sense with the following words: utilize (n=20, 83.3%), promenaded (n=17, 74.3%), portal (n=14, 58.3%), mutton (n=14, 58.3%), facilitate (n=13, 54.2%), amiable (n=13, 54.2%), and regarded (n=12, 50%).

**Table 5. Pre-test results on SAI – Item C (Make up a sentence using the word)**

<table>
<thead>
<tr>
<th>Word</th>
<th>No sentence/makes no sense at all</th>
<th>Made a sentence/does not make total sense</th>
<th>Made a sentence and makes sense</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Fatigue</td>
<td>8</td>
<td>33.3</td>
<td>12</td>
</tr>
<tr>
<td>Jaundiced</td>
<td>15</td>
<td>62.5</td>
<td>0</td>
</tr>
<tr>
<td>Fortify</td>
<td>4</td>
<td>16.7</td>
<td>14</td>
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<tr>
<td>Terrestrial</td>
<td>10</td>
<td>41.7</td>
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<td>Mutton</td>
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<td>Promenaded</td>
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<td>Portal</td>
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<td>Reverie</td>
<td>15</td>
<td>62.5</td>
<td>1</td>
</tr>
<tr>
<td>Amiable</td>
<td>11</td>
<td>45.8</td>
<td>0</td>
</tr>
</tbody>
</table>
The Short Answer Instrument was re-administered to the 24 participants. On the day of the test, the school office informed the classroom teacher that she had to temporarily exchange rooms with a neighbouring class. The students appeared very calm and not bothered by this change, as it was not the first time that they had to move to this other classroom. The move did not disrupt the task-taking process. Before the administration of the activity, the class and I did an example of the task on the front board together. I handed out the task and together we read the instructions. 24 participants successfully completed the activity.

Table 6 summarizes the results of the post-test short answer instrument. Of the 15 words, 50% or more of the participants were able to define correctly the following words: utilize (n=23, 95.8%), regarded (n=22, 91.6%), promenaded (n=21, 87.5%), portal (n=20, 83.3%), facilitate (n=17, 70/8%), fortify (n=14, 58.3%), amiable (n=14, 58.3%), terrestrial (n=13, 54.2%) and reverie (n=12, 50%). This represented an improvement in word recognition compared to the pre-test (i.e., 5 words were defined properly by 50% or more of the students in the pre-test compared to 9 words in the post-test – an improvement of 4 new words).
Table 6. Post-test results on SAI - Item A (Tell me what the word means)

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition not at all like dictionary/No response</th>
<th>Definition close to dictionary</th>
<th>Definition same as dictionary</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Fatigue</td>
<td>4</td>
<td>16.7</td>
<td>17</td>
</tr>
<tr>
<td>Jaundiced</td>
<td>16</td>
<td>66.7</td>
<td>3</td>
</tr>
<tr>
<td>Fortify</td>
<td>4</td>
<td>16.7</td>
<td>6</td>
</tr>
<tr>
<td>Terrestrial</td>
<td>11</td>
<td>45.8</td>
<td>0</td>
</tr>
<tr>
<td>Mutton</td>
<td>2</td>
<td>8.3</td>
<td>16</td>
</tr>
<tr>
<td>Utilize</td>
<td>1</td>
<td>4.2</td>
<td>0</td>
</tr>
<tr>
<td>Promenaded</td>
<td>3</td>
<td>12.5</td>
<td>0</td>
</tr>
<tr>
<td>Regarded</td>
<td>2</td>
<td>8.3</td>
<td>0</td>
</tr>
<tr>
<td>Portal</td>
<td>3</td>
<td>12.5</td>
<td>1</td>
</tr>
<tr>
<td>Grandeur</td>
<td>11</td>
<td>45.8</td>
<td>13</td>
</tr>
<tr>
<td>Justify</td>
<td>21</td>
<td>87.5</td>
<td>3</td>
</tr>
<tr>
<td>Facilitate</td>
<td>5</td>
<td>20.8</td>
<td>2</td>
</tr>
<tr>
<td>Corps</td>
<td>3</td>
<td>12.5</td>
<td>12</td>
</tr>
<tr>
<td>Reverie</td>
<td>9</td>
<td>37.5</td>
<td>3</td>
</tr>
<tr>
<td>Amiable</td>
<td>8</td>
<td>33.3</td>
<td>2</td>
</tr>
</tbody>
</table>

The open-ended responses to Item B of the Short Answer Instrument (What was it with the word that helped you with its meaning?) were summarized into eight categories. Table 7 summarizes how the definitions were obtained for the 15 words based on the 8 categories constructed. Overall, the majority of student responses were classified into the category “I thought about French”. At least 50% of the students reported using French knowledge to assist them in defining the following words: regarded (n=22, 91.6%), grandeur (n=20, 83.3%), fatigue (n=20, 83.3%), utilize (n=20, 83.3%), mutton (n=19, 79.2%), promenaded (n=16, 66.7%),
terrestrial (n=15, 62.5%), and facilitate (n=15, 62.5%). In the pre-test, 50% or more of participants indicated using French to assist with the definition for three words, compared with 8 words in the post-test – an improvement of five new words. In addition, when considering the three pre-test words in which 50% or more of the students reported using French to help with the definition (regarded, grandeur and fatigue), there was a significant increase for the post-test. Between pre-testing and post-testing, the number of students who indicated they used French as a strategy increased by 7 students for regarded, by 6 students for grandeur and by 8 students for fatigue. “Previous experience with English words” was also frequently identified as a strategy students used to gain meaning from the English word in the sentence prompt, although this reason was used to a lesser extent that the “French” category.
Table 7. Post-test results on SAI – Item B (What was it about the word that helped you with its meaning?)

<table>
<thead>
<tr>
<th>Word</th>
<th>No/Don't know/No reason</th>
<th>I guessed (wild)</th>
<th>I thought about French</th>
<th>Took cues from other words in sentence/context</th>
<th>Had previous experience with English words</th>
<th>Miscued/Incomprehensible</th>
<th>Made think about similar English word</th>
<th>Made think about another English word</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
</tr>
<tr>
<td>Fatigue</td>
<td>1</td>
<td>4.2</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>83.3</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>Jaundiced</td>
<td>8</td>
<td>33.3</td>
<td>0</td>
<td>0</td>
<td>9</td>
<td>37.5</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>Fortify</td>
<td>3</td>
<td>12.5</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>25</td>
<td>8</td>
<td>33.3</td>
</tr>
<tr>
<td>Terrestrial</td>
<td>3</td>
<td>12.5</td>
<td>0</td>
<td>0</td>
<td>15</td>
<td>62.5</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>Mutton</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>19</td>
<td>79.2</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>Utilize</td>
<td>1</td>
<td>4.2</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>83.3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Promenaded</td>
<td>2</td>
<td>8.3</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>66.7</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>Regarded</td>
<td>1</td>
<td>4.2</td>
<td>0</td>
<td>0</td>
<td>22</td>
<td>91.7</td>
<td>1</td>
<td>4.2</td>
</tr>
<tr>
<td>Portal</td>
<td>2</td>
<td>8.3</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>41.7</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>Grandeur</td>
<td>4</td>
<td>17.7</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>83.3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Justify</td>
<td>6</td>
<td>25</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>25</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>Facilitate</td>
<td>4</td>
<td>16.7</td>
<td>2</td>
<td>8.3</td>
<td>15</td>
<td>62.5</td>
<td>2</td>
<td>8.3</td>
</tr>
<tr>
<td>Corps</td>
<td>3</td>
<td>12.5</td>
<td>2</td>
<td>8.3</td>
<td>4</td>
<td>16.7</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>Reverie</td>
<td>8</td>
<td>33.3</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>50</td>
<td>3</td>
<td>12.5</td>
</tr>
<tr>
<td>Amiable</td>
<td>5</td>
<td>20.8</td>
<td>0</td>
<td>0</td>
<td>10</td>
<td>41.7</td>
<td>7</td>
<td>29.2</td>
</tr>
</tbody>
</table>

Table 8 summarizes post-test results with regard to the students’ ability to place the 15 words in a sentence. At least 50% of the students were able to write a sentence that made sense with the following words: utilize (n=20, 83.3%), mutton (n=18, 75%), promenaded (n=18, 75%), amiable (n=16, 66.7%), portal (n=15, 62.5%), terrestrial (n=14, 58.3%), regarded (n=14, 58.3%), facilitate (n=14, 58.3%), reverie (n=12, 50%) and jaundiced (n=12, 50%). Although this represents an increase of three words (terrestrial, reverie and jaundiced) compared with the pre-test, the seven words that appeared in both the pre-test and post-test (utilize,
mutton, promenaded, amiable, portal, regarded, facilitate) showed little difference in the number of students who were able to write a sentence that made sense. Fifty percent or more of the participants were unable to write a sentence that made sense for the following words: justify (n=13), jaundiced (n=12), fortify (n=12), corps (n=12), and reverie (n=12).

Table 8. Post-test results on SAI – Item C (Make up sentence using this word)

<table>
<thead>
<tr>
<th>Word</th>
<th>No sentence/makes no sense at all</th>
<th>Made a sentence/does not make total sense</th>
<th>Made a sentence and makes sense</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>FATIGUE</td>
<td>2</td>
<td>8.3</td>
<td>14</td>
</tr>
<tr>
<td>JAUNDICED</td>
<td>12</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>FORTEY</td>
<td>12</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>TERRESTRIAL</td>
<td>9</td>
<td>37.5</td>
<td>1</td>
</tr>
<tr>
<td>MUTTON</td>
<td>1</td>
<td>4.2</td>
<td>5</td>
</tr>
<tr>
<td>UTILIZE</td>
<td>2</td>
<td>8.3</td>
<td>2</td>
</tr>
<tr>
<td>PROMENADED</td>
<td>4</td>
<td>16.7</td>
<td>2</td>
</tr>
<tr>
<td>REGARDED</td>
<td>9</td>
<td>37.5</td>
<td>1</td>
</tr>
<tr>
<td>PORTAL</td>
<td>4</td>
<td>16.7</td>
<td>5</td>
</tr>
<tr>
<td>GRANDUR</td>
<td>15</td>
<td>62.5</td>
<td>0</td>
</tr>
<tr>
<td>JUSTIFY</td>
<td>13</td>
<td>54.2</td>
<td>2</td>
</tr>
<tr>
<td>FACILITATE</td>
<td>8</td>
<td>33.3</td>
<td>2</td>
</tr>
<tr>
<td>CORPS</td>
<td>12</td>
<td>50</td>
<td>4</td>
</tr>
<tr>
<td>REVERIE</td>
<td>12</td>
<td>50</td>
<td>0</td>
</tr>
<tr>
<td>AMIABLE</td>
<td>7</td>
<td>29.2</td>
<td>1</td>
</tr>
</tbody>
</table>
Comparing the Short Answer Instrument Pre-test and the Short Answer Instrument Post-test

Comparison of SAI mean scores (pre- vs. post-test)

In order to identify significant changes in the students' ability to define the 15 words used on the Short Answer Instrument, Item A "Tell me what the word means" and Item C "Make up a sentence using this word" were scored using an ordinal scale wherein zero represented an inaccurate response and two represented an accurate response. Comparison of mean pre-test and post-test scores for the word definition is summarized in Table 9 (below). Overall, the students improved their mean scores for all words, except for fortify (mean score difference reduced by 0.04) and justify (mean score difference reduced by 0.04). However, a statistically significant improvement (i.e., \( p < 0.05 \)) in the participants' mean scores was present for 4 of the 15 words: mutton, portal, reverie and utilize. Although utilize had the highest post-test mean score (1.92), portal had the greatest mean score difference improvement (0.87).
Table 9. Comparison of mean test scores before and after for Item A (Tell me what the word means) (N=24)

<table>
<thead>
<tr>
<th>Word</th>
<th><strong>Pre-test mean score (± SD)</strong></th>
<th><strong>Post-test mean score (± SD)</strong></th>
<th><strong>Mean difference (95% CI)</strong></th>
<th><strong>t-test†</strong></th>
<th><strong>p</strong></th>
<th><strong>z-score‡</strong></th>
<th><strong>p</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Fortify</td>
<td>1.46 (1.02)</td>
<td>1.42 (0.78)</td>
<td>0.04</td>
<td>0.15</td>
<td>0.88</td>
<td>-0.18</td>
<td>0.86</td>
</tr>
<tr>
<td>Grandeur</td>
<td>0.46 (0.51)</td>
<td>0.54 (0.51)</td>
<td>-0.08</td>
<td>-0.81</td>
<td>0.43</td>
<td>-0.82</td>
<td>0.41</td>
</tr>
<tr>
<td>Jaundiced</td>
<td>0.38 (0.71)</td>
<td>0.54 (0.83)</td>
<td>-0.17</td>
<td>-1.45</td>
<td>0.16</td>
<td>-1.41</td>
<td>0.16</td>
</tr>
<tr>
<td>Justify</td>
<td>0.17 (0.48)</td>
<td>0.13 (0.34)</td>
<td>0.04</td>
<td>0.37</td>
<td>0.71</td>
<td>-0.38</td>
<td>0.70</td>
</tr>
<tr>
<td>Mutton</td>
<td>0.75 (0.74)</td>
<td>1.17 (0.56)</td>
<td>-0.42</td>
<td>-2.85</td>
<td>0.009</td>
<td>-2.49</td>
<td>0.01</td>
</tr>
<tr>
<td>Portal</td>
<td>0.83 (0.96)</td>
<td>1.71 (0.69)</td>
<td>-0.87</td>
<td>-3.84</td>
<td>0.001</td>
<td>-3.23</td>
<td>0.001</td>
</tr>
<tr>
<td>Promenaded</td>
<td>1.67 (0.70)</td>
<td>1.75 (0.68)</td>
<td>-0.08</td>
<td>-0.53</td>
<td>0.60</td>
<td>-0.55</td>
<td>0.58</td>
</tr>
<tr>
<td>Regarded</td>
<td>1.63 (0.77)</td>
<td>1.83 (0.56)</td>
<td>-0.21</td>
<td>-1.74</td>
<td>0.10</td>
<td>-1.63</td>
<td>0.10</td>
</tr>
<tr>
<td>Reverie</td>
<td>0.75 (0.90)</td>
<td>1.13 (0.95)</td>
<td>-0.38</td>
<td>-2.39</td>
<td>0.03</td>
<td>-2.12</td>
<td>0.03</td>
</tr>
<tr>
<td>Terrestrial</td>
<td>0.75 (0.94)</td>
<td>1.08 (1.02)</td>
<td>-0.33</td>
<td>-1.78</td>
<td>0.09</td>
<td>-1.58</td>
<td>0.11</td>
</tr>
<tr>
<td>Utilize</td>
<td>1.50 (0.78)</td>
<td>1.92 (0.41)</td>
<td>-0.42</td>
<td>-2.85</td>
<td>0.009</td>
<td>-2.43</td>
<td>0.02</td>
</tr>
<tr>
<td>Facilitate</td>
<td>1.25 (0.94)</td>
<td>1.50 (0.83)</td>
<td>-0.25</td>
<td>-1.45</td>
<td>0.16</td>
<td>-1.30</td>
<td>0.19</td>
</tr>
<tr>
<td>Amiable</td>
<td>1.04 (0.91)</td>
<td>1.25 (0.94)</td>
<td>-0.21</td>
<td>-1.22</td>
<td>0.23</td>
<td>-1.16</td>
<td>0.25</td>
</tr>
<tr>
<td>Corps</td>
<td>1.00 (0.59)</td>
<td>1.25 (0.68)</td>
<td>-0.25</td>
<td>-1.81</td>
<td>0.08</td>
<td>-1.73</td>
<td>0.08</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0.79 (0.66)</td>
<td>0.96 (0.55)</td>
<td>-0.17</td>
<td>-1.07</td>
<td>0.30</td>
<td>-1.03</td>
<td>0.30</td>
</tr>
</tbody>
</table>

† t-test – Student t-test (parametric); ‡z-score – Wilcoxon Signed Ranked Test (non-parametric)
Table 10 (below) summarizes the comparison of mean pre-test and post-test scores for using the word in a sentence. In this case, the students improved in the mean scores for all the words; the only statistically significant difference was recorded for fatigue (mean score difference improved by 0.42, p < 0.05).

### Table 10. Comparison of mean test scores before and after in Item C (Make up a sentence using the word) (N=24)

<table>
<thead>
<tr>
<th>Word</th>
<th>Pre-test mean score (± SD)</th>
<th>Post-test mean score (± SD)</th>
<th>Mean difference [95% CI]</th>
<th>t-test †</th>
<th>p</th>
<th>z-score ‡</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fortify</td>
<td>0.67 (0.87)</td>
<td>0.83 (0.92)</td>
<td>-0.17 [-0.51, 0.18]</td>
<td>-1.00</td>
<td>0.33</td>
<td>-0.95</td>
<td>0.34</td>
</tr>
<tr>
<td>Grandeur</td>
<td>0.54 (0.88)</td>
<td>0.75 (0.99)</td>
<td>-0.21 [-0.60, 0.19]</td>
<td>-1.10</td>
<td>0.28</td>
<td>-1.22</td>
<td>0.22</td>
</tr>
<tr>
<td>Jaundiced</td>
<td>0.75 (0.99)</td>
<td>1.00 (1.02)</td>
<td>-0.25 [-0.82, 0.32]</td>
<td>-0.90</td>
<td>0.38</td>
<td>-0.90</td>
<td>0.37</td>
</tr>
<tr>
<td>Justify</td>
<td>0.75 (0.88)</td>
<td>0.83 (0.98)</td>
<td>-0.04 [-0.52, 0.43]</td>
<td>-0.18</td>
<td>0.86</td>
<td>-0.14</td>
<td>0.89</td>
</tr>
<tr>
<td>Mutton</td>
<td>1.38 (0.82)</td>
<td>1.71 (0.55)</td>
<td>-0.33 [-0.76, 0.09]</td>
<td>-1.62</td>
<td>0.12</td>
<td>-1.55</td>
<td>0.12</td>
</tr>
<tr>
<td>Portal</td>
<td>1.21 (0.98)</td>
<td>1.46 (0.78)</td>
<td>-0.25 [-0.61, 0.11]</td>
<td>-1.45</td>
<td>0.16</td>
<td>-1.47</td>
<td>0.14</td>
</tr>
<tr>
<td>Promenaded</td>
<td>1.54 (0.78)</td>
<td>1.58 (0.78)</td>
<td>-0.04 [-0.43, 0.34]</td>
<td>-0.22</td>
<td>0.82</td>
<td>-0.17</td>
<td>0.86</td>
</tr>
<tr>
<td>Regarded</td>
<td>1.17 (0.92)</td>
<td>1.21 (0.98)</td>
<td>-0.04 [-0.61, 0.52]</td>
<td>-0.15</td>
<td>0.88</td>
<td>-0.03</td>
<td>0.97</td>
</tr>
<tr>
<td>Reverie</td>
<td>0.71 (0.95)</td>
<td>1.00 (1.02)</td>
<td>-0.30 [-0.75, 0.17]</td>
<td>-1.32</td>
<td>0.20</td>
<td>-1.21</td>
<td>0.23</td>
</tr>
<tr>
<td>Terrestrial</td>
<td>1.04 (0.95)</td>
<td>1.21 (0.98)</td>
<td>-0.17 [-0.63, 0.29]</td>
<td>-0.74</td>
<td>0.46</td>
<td>-0.79</td>
<td>0.43</td>
</tr>
<tr>
<td>Utilize</td>
<td>1.71 (0.69)</td>
<td>1.75 (0.61)</td>
<td>-0.04 [-0.33, 0.25]</td>
<td>-0.30</td>
<td>0.77</td>
<td>-0.41</td>
<td>0.68</td>
</tr>
<tr>
<td>Facilitate</td>
<td>1.17 (0.98)</td>
<td>1.25 (0.94)</td>
<td>-0.08 [-0.05, 0.31]</td>
<td>-0.44</td>
<td>0.66</td>
<td>-0.57</td>
<td>0.57</td>
</tr>
<tr>
<td>Amiable</td>
<td>1.08 (1.02)</td>
<td>1.38 (0.92)</td>
<td>-0.29 [-0.71, 0.13]</td>
<td>-1.43</td>
<td>0.17</td>
<td>-1.54</td>
<td>0.12</td>
</tr>
<tr>
<td>Corps</td>
<td>0.58 (0.83)</td>
<td>0.83 (0.92)</td>
<td>-0.25 [-0.61, 0.11]</td>
<td>-1.45</td>
<td>0.16</td>
<td>-1.35</td>
<td>0.18</td>
</tr>
<tr>
<td>Fatigue</td>
<td>0.83 (0.70)</td>
<td>1.25 (0.60)</td>
<td>-0.42 [-0.69, 0.14]</td>
<td>-3.12</td>
<td>0.005</td>
<td>-2.76</td>
<td>0.008</td>
</tr>
</tbody>
</table>

† t-test – Student t-test (parametric); ‡z-score – Wilcoxon Signed Ranked Test (non-parametric)

A comparison of pre- and post-test mean scores for the combined scores of “define” and “put into a sentence” is summarized in Table 11. Except for justify which had no change in the mean score, the participants’ mean score for all words improved at the post-test. However, the difference between pre- and post-tests for six of the 15 words was statistically significant: mutton, portal, reverie, utilize, corps and fatigue (mean difference in scores ranged from 0.46 to 1.12, all p<0.05).
Reverie was significant with the t-test (parametric) but not with z-score (non-parametric). “Utilize” had the highest post-test mean score (3.17), while the greatest improvement in mean score was seen with portal (mean score difference improved by 1.12).

**Table 11. Comparison of mean test scores in pre-test and post-test adding Item A and Item C scores (N=24)**

<table>
<thead>
<tr>
<th>Word</th>
<th>Pre-test mean score (± SD)</th>
<th>Post-test mean score (± SD)</th>
<th>Mean difference [95% CI]</th>
<th>t-test†</th>
<th>p</th>
<th>z-score‡</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fortify</td>
<td>2.12 (1.42)</td>
<td>2.25 (1.45)</td>
<td>-0.12 [-0.81, 0.56]</td>
<td>-0.38</td>
<td>0.71</td>
<td>-0.51</td>
<td>0.61</td>
</tr>
<tr>
<td>Grandeur</td>
<td>1.00 (1.10)</td>
<td>1.29 (1.27)</td>
<td>-0.29 [-0.75, 0.16]</td>
<td>-1.32</td>
<td>0.20</td>
<td>-1.33</td>
<td>0.18</td>
</tr>
<tr>
<td>Jaundiced</td>
<td>1.12 (1.51)</td>
<td>1.54 (1.47)</td>
<td>-0.42 [-1.02, 0.19]</td>
<td>-1.42</td>
<td>0.17</td>
<td>-1.46</td>
<td>0.14</td>
</tr>
<tr>
<td>Justify</td>
<td>0.96 (1.08)</td>
<td>0.96 (1.16)</td>
<td>0.00 [-0.54, 0.54]</td>
<td>0.00</td>
<td>1.00</td>
<td>-0.08</td>
<td>0.94</td>
</tr>
<tr>
<td>Mutton</td>
<td>2.12 (1.26)</td>
<td>2.88 (0.80)</td>
<td>-0.75 [-1.34, -0.16]</td>
<td>-2.64</td>
<td>0.015</td>
<td>-2.35</td>
<td>0.02</td>
</tr>
<tr>
<td>Portal</td>
<td>2.04 (1.65)</td>
<td>3.17 (1.20)</td>
<td>-1.12 [-1.81, -0.44]</td>
<td>-3.40</td>
<td>0.002</td>
<td>-3.04</td>
<td>0.002</td>
</tr>
<tr>
<td>Promenaded</td>
<td>3.21 (1.28)</td>
<td>3.33 (1.09)</td>
<td>-0.12 [-0.69, 0.44]</td>
<td>-0.46</td>
<td>0.65</td>
<td>-0.42</td>
<td>0.68</td>
</tr>
<tr>
<td>Regarded</td>
<td>2.79 (1.41)</td>
<td>3.04 (1.23)</td>
<td>-0.25 [-0.91, 0.41]</td>
<td>-0.78</td>
<td>0.44</td>
<td>-0.50</td>
<td>0.61</td>
</tr>
<tr>
<td>Reverie</td>
<td>1.46 (1.74)</td>
<td>2.12 (1.70)</td>
<td>-0.67 [-1.34, 0.01]</td>
<td>-2.03</td>
<td>0.05</td>
<td>-1.81</td>
<td>0.07</td>
</tr>
<tr>
<td>Terrestrial</td>
<td>1.79 (1.82)</td>
<td>2.29 (1.90)</td>
<td>-0.50 [-1.29, 0.29]</td>
<td>-1.31</td>
<td>0.20</td>
<td>-1.27</td>
<td>0.20</td>
</tr>
<tr>
<td>Utilize</td>
<td>3.21 (1.28)</td>
<td>3.67 (0.92)</td>
<td>-0.46 [-0.91, -0.10]</td>
<td>-2.11</td>
<td>0.05</td>
<td>-2.07</td>
<td>0.04</td>
</tr>
<tr>
<td>Facilitate</td>
<td>2.42 (1.72)</td>
<td>2.75 (1.65)</td>
<td>-0.33 [-0.91, 0.25]</td>
<td>-1.19</td>
<td>0.25</td>
<td>-1.08</td>
<td>0.28</td>
</tr>
<tr>
<td>Amiable</td>
<td>2.12 (1.87)</td>
<td>2.62 (1.79)</td>
<td>-0.50 [-1.21, 0.22]</td>
<td>-0.14</td>
<td>0.16</td>
<td>-1.34</td>
<td>0.18</td>
</tr>
<tr>
<td>Corps</td>
<td>1.58 (1.21)</td>
<td>2.10 (1.32)</td>
<td>-0.50 [-0.98, -0.02]</td>
<td>-2.14</td>
<td>0.04</td>
<td>-1.97</td>
<td>0.05</td>
</tr>
<tr>
<td>Fatigue</td>
<td>1.62 (1.06)</td>
<td>2.21 (0.93)</td>
<td>-0.58 [-1.06, -0.10]</td>
<td>-2.51</td>
<td>0.02</td>
<td>-2.22</td>
<td>0.03</td>
</tr>
</tbody>
</table>

† t-test – Student t-test (parametric); ‡z-score – Wilcoxon Signed Ranked Test (non-parametric)
Cross-tabulations on using French as a strategy (pre- and post-test)

In order to determine whether the students improved by using French to help identify the 15 words, participant responses for pre-test versus post-test were compared using the McNemar test for non-parametric comparison of two related variables. The results are summarized in Appendix K. Of the 15 words, the proportion of students who indicated using French to help define the word increased significantly for nine words: facilitate, fatigue, grandeur, mutton, portal, promenaded, regarded, reverie, and utilize. Of these nine words, “utilize” had the greatest increase in the proportion of students who reported using French between pre-test and post-test (n=12). Both “amiable” and “jaundice” approached statistical significance with an increase in the proportion of students by 5 and 3, respectively (both p = 0.06).

Comparison of Participant Sum Total Short Answer Instrument Scores

(Items A and C)

A sum total score for each student was calculated. Each sum total score was comprised of the scores the student received for Item A “Tell me what the word means” and Item C “Make up a sentence using the word” for each word in the Short Answer Instrument. Item A and Item C were scored into an ordinal scale wherein zero represented an inaccurate response and two represented an accurate response. One represented a response that was partially accurate and the two raters
in the study made that determination. As there were 15 word prompts in Items A and C on the Short Answer Instrument, the highest possible total sum score a student could receive was 60 (15 x 2 in Item A, 15 x 2 in Item B). Table 12 presents sum total scores for the pre-test Short Answer Instrument and the post-test. Pseudonyms are used in all tables presented in this document.

**Table 12. Sum total scores of the pre-test SAI and the post-test SAI**

<table>
<thead>
<tr>
<th>Participant</th>
<th>Sum Total of SAI pre-test</th>
<th>Sum Total of SAI post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anne</td>
<td>43.0</td>
<td>49.0</td>
</tr>
<tr>
<td>Tom</td>
<td>21.0</td>
<td>33.0</td>
</tr>
<tr>
<td>Allison</td>
<td>18.0</td>
<td>34.0</td>
</tr>
<tr>
<td>Serina</td>
<td>39.0</td>
<td>50.0</td>
</tr>
<tr>
<td>Melissa</td>
<td>38.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Don</td>
<td>28.0</td>
<td>31.0</td>
</tr>
<tr>
<td>Paul</td>
<td>36.0</td>
<td>46.0</td>
</tr>
<tr>
<td>Carole</td>
<td>41.0</td>
<td>43.0</td>
</tr>
<tr>
<td>Sally</td>
<td>22.0</td>
<td>24.0</td>
</tr>
<tr>
<td>Cathy</td>
<td>27.0</td>
<td>47.0</td>
</tr>
<tr>
<td>Aaron</td>
<td>44.0</td>
<td>45.0</td>
</tr>
<tr>
<td>Christine</td>
<td>28.0</td>
<td>21.0</td>
</tr>
<tr>
<td>Name</td>
<td>Pre-score</td>
<td>Post-score</td>
</tr>
<tr>
<td>--------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>Linda</td>
<td>10.0</td>
<td>21.0</td>
</tr>
<tr>
<td>Jaideene</td>
<td>35.0</td>
<td>35.0</td>
</tr>
<tr>
<td>Maude</td>
<td>26.0</td>
<td>33.0</td>
</tr>
<tr>
<td>Lisa</td>
<td>20.0</td>
<td>40.0</td>
</tr>
<tr>
<td>Daniel</td>
<td>23.0</td>
<td>30.0</td>
</tr>
<tr>
<td>Elisa</td>
<td>36.0</td>
<td>39.0</td>
</tr>
<tr>
<td>Dora</td>
<td>30.0</td>
<td>46.0</td>
</tr>
<tr>
<td>Rachel</td>
<td>54.0</td>
<td>50.0</td>
</tr>
<tr>
<td>Camille</td>
<td>6.0</td>
<td>9.0</td>
</tr>
<tr>
<td>Jennifer</td>
<td>15.0</td>
<td>37.0</td>
</tr>
<tr>
<td>Jamal</td>
<td>25.0</td>
<td>26.0</td>
</tr>
<tr>
<td>Margaret</td>
<td>45.0</td>
<td>45.0</td>
</tr>
</tbody>
</table>

When all the students’ performances on the pre-test Short Answer Instrument were totalled, the mean score of the sum total was 29.5 ±11.8 out of a possible 60 points. The mean score for the sum total of the post-test results was 36.2 ±10.7. Hence, the students improved their mean scores between pre and post by 6.6 ±8 points. The improvement in the sum total pre-test mean and the sum total post-test mean was statistically significant (Student’s t-test, p = 0.0001).
Participants who scored above the class pre-test mean

On the Short Answer Instrument pre-test, 11 students scored greater than the pre-test mean score (29.6 ±11.8). The mean score for these 11 students on the Short Answer pre-test was 40.1 ±6.4. The 11 participants who scored higher than the pre-test mean, on average, improved their scores very slightly during post-test testing. The post-test mean score for the 11 students who scored greater than the class pre-test mean score was 43.9 ±5.4. The mean difference for these 11 students for pre-test versus post-test was 3.8 ±6.3. The improvement in scores between pre and post testing for the 11 students who performed better that the pre-test mean was non-significant (p = 0.071).

The students who performed better on the Short Answer Instrument than the average of their peers did not make a significant change in post-testing even after the Metalinguistic Lessons. It may be that the students who were successful with the Short Answer Instrument did not benefit from the learning that occurred during the Metalinguistic Lessons and hence their performance on the post-test was not altered significantly. The 11 participants who scored better than their average peer on the pre-test Short Answer Instrument may have already been employing the strategy of drawing from their L2 before the metalinguistic instruction.
Participants who scored below the class pre-test mean

On the Short Answer Instrument pre-test, 13 students scored lower than the class pre-test mean score (29.6 ±11.8). The mean score for these 13 students on the Short Answer pre-test was 20.7 ±6.9. The 13 participants who scored lower than the class pre-test mean, on average, improved their scores significantly during post-test testing. The post-test mean score for these 13 participants was 29.7 ±9.7. The mean difference between pre-test and post-test for the 13 students was 9.0 ±8.8. The improvement in scores between pre and post testing for the 13 students who scored below the class pre-test mean was significant (p=0.003).

The students who scored lower on the Short Answer Instrument that the average of their peers did made a significant change in post-testing after the Metalinguistic treatment. It seems that the students who performed poorly on the Short Answer Instrument in pre-test (below the mean average) improved their scores significantly once they had participated in the three Metalinguistic Lessons.

Four students who scored below the class pre-test mean and above the class post-test mean

There were four participants out of the twenty-four students in the study who scored below the mean of class results on the pre Short Answer Instrument and who scored above the mean of the class results on the post Short Answer Instrument. Cathy, Lisa, Dora and Jennifer all performed significantly better on
the Short Answer Instrument after their participation in the metalinguistic treatment. On the pre-test, the mean score for these four students was $23 \pm 6.8$ out of a possible 60; 6.6 points below the class mean score. On the post-test the mean score for these four students was $42.5 \pm 4.8$; 6.3 points above the class mean score.

**Summary of Quantitative Results**

The pre-test frequency scores on the Short Answer Instrument revealed some interesting information with regard to the first research question, "To what extent do EFI students use French as a language resource when they encounter unfamiliar English words that are cognates or that have morphologically similar affixes?" Four out of the fifteen words that appeared on the Short Answer Instrument seemed salient to participants, as over 50% of students were able to correctly define them in the pre-test. At least half of the students reported that they used French to help them define three of the fifteen cognate words that appeared on the Short Answer Instrument pre-test. It is interesting to note that the cognate words "regarded", "grandeur" and "fatigue", for which students reported having used French to help them define the meaning were all direct cognates. When considering the post-test results on the Short Answer Instrument, an increase was evident for all three tasks. Specifically, there was a significant difference in the number of students who reported using French as a resource after exposure to the Metalinguistic Lessons.
Overall, there was an improvement for each word from pre-test to post-test. Students significantly performed better on six of the fifteen words after their involvement in the Metalinguistic Treatment (fatigue, corps, utilize, regarded, portal, mutton). The cross-tabulations also provided some interesting results concerning the difference in students’ reported use of French as a language resource in an English language task. There was a significant increase in the number of students who reported using their L2 in order to help define a cognate word for nine of the fifteen word prompts on the Short Answer Instrument (facilitate, fatigue, grandeur, mutton, portal, promenaded, regarded, reverie, utilize).

Finally, there was a significant increase between pre and post in the total score each student received on the Short Answer Instrument indicating that students overall benefited from the positive transfer strategies provided during the metalinguistic lessons. Nevertheless, on average, the sum total result that students received on the Short Answer pre-test was 29.6 out of 60 (49%). On average during post-testing, the students’ sum total score was 36.2 out of 60 (60%). Further, the results demonstrate that students who were successful on the pre-test Short Answer Instrument, that is those who scored higher than the mean, did not significantly change their test score during post-test measures. The participants who scored poorly on the pre-test improved their scores significantly after
treatment. It seems that the metalinguistic treatment had a larger effect on the students' awareness of French and English cognates and the potential for transfer for those participants who scored very poorly on the Short Answer Instrument.

Even so, it is notable to mention that the post-test mean (29.7 ± 9.7) of the students who had originally scored lower that the class mean in pre-testing is considerably lower than the pre-test mean for the participants who had originally scores higher than the class average (40.1 ± 6.4). In other words, as much as the lower students made a significant improvement of their ability to make sense of the Latinate English words after some metalinguistic treatment, their performance on the post-test was still lower than the other students’ pre-test.

I am aware that the value of the type-1 error rate (p<0.05) should be smaller based on total number of statistical comparisons that were conducted with this data. In this thesis, there were 63 statistical comparisons. However, because this research project is an exploratory study I chose not to correct for the number of tests conducted.

The Quantitative results revealed some meaningful information on how the participants’ in the study use their dual language resource when faced with cognate or words that are morphologically similar in English and French. The Qualitative results will shed some light on how a small sample of Grade Five French
Immersion students view reading in two languages and the benefits this skill offers them.
CHAPTER FIVE

QUALITATIVE RESULTS

The qualitative data from the pre and post interviews were compiled and analyzed for common themes and patterns. The units of analysis for the coding used during the qualitative data were the "perspectives held by subjects"\textsuperscript{14} unit and "strategy codes"\textsuperscript{15} unit (Bogdan & Bilken, 1998). The interview data were also coded for the content or nature of the comment to see if any patterns emerged. The coding categories were also quantified to examine the commonalities in the data.

The Bilingual Strategy Interviews

During the study, two Bilingual Strategy Interviews were administered to some of the students. The first, a 16-question Student Interview given after the SAI, was conducted with 10 of the 24 students. These 10 students were chosen at random. The purpose of the Student Interview was to provide qualitative information about how students use their L1 and L2 in reading activities. The first Bilingual Strategy Interview was conducted before the Metalinguistic Lessons so that the students could relay their opinions of L1 and L2 use without the influence of the classroom treatment. The second Bilingual Strategy Interview was conducted with the same 10 students from the first interview and was conducted

\textsuperscript{14} Ways of thinking all or some of the subjects share...including shared rules, norms and points of view (Bogdan&Bilken, 1998, p. 175)

\textsuperscript{15} Tactics, methods, techniques, manoeuvres, plays and other conscious ways people accomplish things (Bogdan & Bilken, 1998, p. 173)
after the metalinguistic lessons. The second interview resembled the first; of the 11 questions posed in the second Bilingual Strategy Interview, 7 questions were repeated from the first interview. The purpose of the second interview was to reveal any differences in student opinion on their use of L1 and L2 during reading activities after the Metalinguistic lessons. Also, the second Bilingual Strategy Interview gave the students an opportunity to express their reactions to what they had learned during the study.

In this Qualitative results section, I present the common issues relating the L1 and L2 use during language activities that emerged from the 10 interviews conducting during the first week of the main study. Relevant themes are discussed with several pertinent quotes from participants. Next, I examine the important ideas that arose out of the second Bilingual Strategy Interviews with related quotes and explanations. Finally a summary of the qualitative data is presented.

First Bilingual Strategy Interview

Reading in L1 or L2

In an effort to situate the students in a context where they would be prepared to reflect comfortably on the topic of reading in L1 or L2, the first several questions on the Bilingual Strategy Interview were about reading in general. Many students described reading as a way of finding information about some intrigue or conflict through internalising language input. Aaron said:
I would describe it like... you would take the words that you are looking at and put them into your mind which makes pictures in your mind and that lets you read the book.

Another very common definition of reading was one that dealt with phonology and sound-symbol interactions. Some students proposed that in order to read, one must be aware of the audible representation that is accorded to individual letters in a word. Daniel suggested that in order to learn to read:

a person has to learn the sounds of every single letter in the alphabet.

Aaron also proposed that to learn to read a student must:

have to learn how to speak and how to look at the words and sound them out and how to say them right.

Other students equated reading with a repetitive activity that requires the recognition and retention of words. The students posited that through this constant interaction with the familiar words, readers learn new words and learn to read.

Dora proposed that for her:

reading is like putting words in your mind that you can remember all the time then you get used to them when you hear them some other times that you can say them and repeat them over and over again.
The two latter student definitions of reading resemble very closely Corson's (1997) explanation of the interactive-activation system used by the human brain to process words:

The mental lexicon analyzes words as whole units, or as letters, syllables, or blends of sounds and morphemes. The mental lexicon's readiness to do any of these things, or all of them, depends on a person's experiences in acquiring the words in the first place, including the frequency of the person's exposure to any given word. (p. 689)

Reading issues inherent to French or English

During the interviews, four out of ten Grade Five French Immersion students indicated that French and English reading were essentially the same activity. They expressed a single view of reading that did not differentiate between languages. When asked about defining French reading and what makes a good reader in French, students expressed that while French reading and English reading were quite similar, the two were also quite different. Specifically, students listed aspects of French reading such as accents, grammar and vocabulary as particular idiosyncrasies of the French language to which anglophone readers much pay close attention. Dora's response exemplifies this perspective:

[To be a good French reader]...they need to know their verbs, they need to know how to spell, they need to know how to pronounce the words if there
are accents and they don’t know how to pronounce them or whatever. They need to remember a bunch of stuff.

Serina also echoes the need for specific knowledge in order succeed in French reading:

[To be a good French reader] they need to know the past and the present, just the same as in English. But in French the past and the present is a bit more difficult than in English because of the accents and endings of words...They would need to know what’s masculine and feminine.

The fact that students highlighted differences between French and English reading such as accents, grammar and vocabulary may be due to the constant and consistent treatment of accents, grammar and vocabulary in not only the Junior French Immersion reading programme but also the writing programme as well.

**Reading strategies**

One of the main purposes of this research project was to investigate how Grade Five French Immersion students use the languages that they know during L1 and L2 reading activities. It was hypothesized that French Immersion students possessing a dual language resource would see the knowledge of French and English as a benefit and not a disadvantage, as Stern (1992) so aptly suggested: “The L2 learner as a previous L1 acquirer already possesses a large stock of concepts on which to draw in trying to learn the second language” (p. 257). In the
Bilingual Strategy Interview students were explicitly asked to talk about how their knowledge of two languages helped them to become better readers or how it hindered them during language tasks.

*L2 helping during L1 language tasks*

In the first Bilingual Strategy Interview, a majority of students interviewed (N=7) indicated that knowing both French and English would help them to become better readers. Students were asked to further expand on the direction in which language transfer is helpful – from French to English and/or from English to French. Seven out of the 10 students interviewed during the first Bilingual Strategy Interview stated that being able to read in French helps them when they read in English. Students were not only able to give examples of their use of French in English reading, but in speaking and writing in English as well. Camille related how she used French as a helpful strategy when faced with a problem with English reading comprehension:

... if you have trouble reading something in English you could probably read it off in French like on a cereal box you want to know like the ingredients or whatever.. and you can’t read it in English you just go ‘I can read in French’ and you can read it in French.
In the example, Camille shows a “demonstration of awareness” (p. 112) as explained by Jiménez et al. (1996) as a reading strategy used by bilingual readers. “This metacognitive strategy involved verbalization of knowledge that students assessed of themselves as readers…or of the usefulness of different reading strategies” (p. 112). In the former example, Camille is cognizant of the strategies she can employ if reading a bilingual label. As she possesses both English and French, the participant knows if a comprehension difficulty comes up in one language, she may be able to access meaning from the other.

Students proffered that language transfer, from French to English, also occurred for them in oral reading and pronunciation. Margaret provided a good example of how knowledge of a French cognate and its pronunciation may be helpful when encountering a similar word in English:

[Knowing French] helps with words and how to pronounce [them]. Like the flower ‘rose’ is like the colour ‘rose’ and it kind of helps because some people may say ‘rosuh’ [mispronounces it] or something like that so it kind of helps because you know the colour in French.

In her response, Margaret explains that if a person did not know how to pronounce ‘rose’ in French they may mispronounce the same word in English. However, if a person knows to pronounce their basic colours in French, like Junior French Immersion students do, there is little likelihood that they will mispronounce
'rose' in French since in both languages this word has very similar pronunciation. In fact, a reader who has previous knowledge of the pronunciation of 'rose' in French would transfer this knowledge to the pronunciation of the word in English. Jiménez et al. (1986) identified this bilingual technique as "transferring" where readers consciously access information gained from experience, text or instruction in their languages for use when processing text in their other languages.

During the Bilingual Strategy Interview, Daniel described how he employs this cross-lingual transfer skill from French to English in order to make sense of an unfamiliar English word. He uses the example of 'beautiful' and how the recognition of a partial cognate from French could prove useful to a student who knows French:

sometimes words can be pronounced different [in English and in French]. But if you know the one in French, then you just have to memorize the same thing in French as it is in English – if you don't know the word. The word 'beautiful' has the word 'beau' in it. And at the starting of the word 'beautiful' it has 'beau'.

In this example however, the pronunciation of the French word as the participant points out, which makes up part of the English word, differs. Nevertheless, Daniel explains that for a bilingual, it is not necessary to relearn the spelling of an English word if the spelling of the familiar French word 'beau' is
already stored in memory. In their study, Jiménez et al. (1996) describe this bilingual reading strategy as “searching for cognates”:

A strategy of consciously drawing upon the lexicon of one language to comprehend, or more fully comprehend, a text that contains cognate or related vocabulary. This strategy requires that its user possess at least a tacit knowledge of the relationship that exists between [L1 and L2]. (p. 112)

Without specific training in metalinguistic awareness, cognate relations or language transfer, some of these Grade Five French Immersion students were already making use of their L2 during L1 activities. Further, these students possessed some knowledge of their rich dual-language resource, as they were able to articulate with clear examples how bilingualism can be a plus before the metalinguistic lessons.

**L1 helping L2 during language tasks**

One of the main goals of the first Bilingual Strategy Interview was to find out how students use French during their L1 reading activities. Students also reported that their language transfer was not unidirectional. Seven out of the 10 participants interviewed stated that being able to read in their L1 helps them when they read in their L2. The latter finding is not surprising if we think of Gass & Selinker’s work (1983, p. 69). “There is evidence that students transfer knowledge from one language to another”. In fact, the L1 to L2 transfer is the more
commonly researched direction of transfer in language transfer studies. Even in H.H. Stern’s (1992) explanation of transfer as a language teaching objective in second language curricula, he refers to transfer from L1 to L2:

...if we wish transfer to occur we should not take it for granted but should positively ‘teach for transfer’. It is this conclusion that leads us to consider transfer as a language-learning objective. If we wish to generalize the lessons of learning the mother tongue to the learning of other languages, such generalizations must become one of our teaching objectives (p. 93).

For those participants interviewed who indicated using L1 during L2 language tasks, they employed this strategy as a mnemonic device to help them remember a word and to help them with comprehension. Jamal mentioned that English helped him remember certain items when he was reading in French. As he states below, Jamal associated a familiar English word stairs with a similar French word escaliers in order to remember the French word:

It sometimes does help me because if I can remember the word in English, I may then remember in French... like ‘stairs’ and ‘escaliers’.

Another student, Dora, stated that knowing how to read in L1 and having lots of reading experiences in L1 provided a solid basis for learning to read in L2. It may be that this particular student recognized that many aspects of reading, even though she did not explicitly point to them, direction of print, use of the alphabet
and similar text formats are quite similar in English and in French. If a person has learned these aspects of English reading first, there they can easily transfer this similar knowledge when learning to read in French. In addition, Dora highlights the benefit of knowing English, when reading in French and using a French-English dictionary:

Because when you read lots in English you can understand a lot and then in French when you go to read you can also understand how to read. And you can maybe look it up in a dictionary if you don’t understand a word maybe it will tell you what the word means in English so it will help you understand some of the French words.

In this way, Dora is able to look up an unfamiliar French word in a bilingual dictionary, which provides her with the English equivalent and helps her to understand the French word. If she did not have a solid vocabulary in her L2, Dora would not be able to profit from this reference material.

It would seem that knowledge of L1 and L2 does benefit students when they are reading in either language. The participants in this study were able to articulate their cross-lingual transfer strategies in the First Bilingual Strategy Interview even before they were exposed to specific instruction on metalinguistic knowledge.
Other Reading Strategies

During the pre-test interview, students reported they employ the following strategies when faced with a comprehension difficulty during English reading:

- look the word up in a dictionary
- continue reading in hopes of getting assistance from context
- ask a parent, ask a teacher, or ask a friend.

When posed the same question regarding what strategies students employ when confronted with a difficult word in French, students indicated that they would:

- ask a teacher for help
- look the word up in the dictionary
- continue reading in hopes of getting assistance from context

The only significant difference between the L1 or L2 reading strategies that the participants reported using was that in French, students were less likely to ask a parent or a friend for help with an unfamiliar French word. It seems quite logical that French Immersion students who live in an Anglophone environment are not likely to ask a parent, who most often does not know French, for help with an unfamiliar French word. In addition, as most of their peers in the French Immersion class are at a developmental stage in their second language learning, it seems that students are not likely to use the French knowledge possessed by classmates as a resource.
Dora also stated that when reading in French she occasionally translates a word “to see if it is like any other words in English and then probably look it up in the dictionary”. Translation is not often encouraged in the communicative second language classroom but seems to work quite effectively for this student during the metalinguistic lessons. Many students are unaware that they possess a very resourceful personal lexicon in their heads, with the knowledge of French and English, and that they can use this potential as a strategy during reading in either language. Stern would seem to agree (1992):

..direct method classes, immersion, or total physical response activities suggest that it is possible, from a very early stage, to handle the L2 ‘from within’ and thus to give the learner some experience of communication without reference to L1...[however] cross-lingual techniques are more diverse than simply translation. If we bear in mind that the learner inevitably works from an L1 reference base, it can be helpful for him to orient himself in the L2 through the L1 medium or by relating L2 phenomena to their equivalents in L1. The learner must obviously be given the opportunity to use the target language intralingually. But provided that opportunity is given, the use of L1 and other crosslingual techniques in the L2 class can be justified, not as a compromise or a lapse from a unilingual
ideal, but because a crosslingual strategy corresponds to natural psychological processes in second language development. (p. 284-285)

Jiménez et al. (1986) also refer to translating as a typical and effective bilingual reading strategy. "Translating within the context of reading refers to the strategy of paraphrasing parts of a text in the bilingual’s other language for the purpose of clarification” (p. 112)

The purpose of this study was to examine to what extent EFI students use French as a language resource when they encounter unfamiliar English words. It is notable to mention that participants indicated that their language transfer during reading happens in both directions, from French to English and from English to French.

Student reflections on comparing French and English

Two of the questions posed in the first Bilingual Strategy Interview asked students to reflect on the similarities between French and English reading. The purpose for investigating student comparisons of L1 and L2 was to examine if students recognized the potential parallel aspects of language that French and English share. In response to L1 and L2 comparison questions, participants easily compared the French and English languages, providing the sound-symbol system, the alphabet, cognates, and punctuation as examples of how these two languages are similar.
Cognates

Cognates, words that are genetically similar in two genetically-related languages, were easily identified by students as a way French and English reading resembled each other. It is not surprising as Leblanc and Séguin (cited in Turnbull, 1999) found 23 150 pairs of cognates common to both French and English. During the interviews, students reported that French reading and English reading are alike because the two languages share some homographs\textsuperscript{16} and parapgraphs\textsuperscript{17}. The students were able to give specific examples of cognates that they knew in French and English. Dora says:

..some words are a lot alike in French and English like the word chair and chaise and it sort of has the word in it. Or like cat and chat and there is one letter difference. There are a lot of letters, there are a lot of words that sound the same.

Jennifer, another student interviewed, alluded to the concept that a French-English cognate is much more recognisable if it is understood by seeing the word rather than hearing it. She says:

Well if there is a word in French that looks like a word in English ... you'd probably be able to tell... like if someone's reading it to you like you probably wouldn't know.

\textsuperscript{16} homographs—words that have the same orthographic form in English and French and share at least one of their senses (Tréville, 1996)
In other words, Jennifer suggests that French could help with English reading provided the bilingual reader is able to see the French-English cognate or similar word. If the French and English words resemble each other in their spelling, a bilingual is more likely to recognize the cognate potential. However it is probably more difficult to identify English and French cognates that are not pronounced the same (which is very likely) when they are oral. She illustrates a good point about the form in which cognates are received (aural, visual) as discussed in Turnbull (1999) and Tréville (1993).

**Phonology and pronunciation**

Due to common origins and evolutionary history in France and England who have been in constant contact on the political, cultural, scientific and literary levels, the languages of these countries still share similar aspects. In the Bilingual Strategy Interview, students were able to recognize that French and English share the same Latin alphabet. Furthermore, students mentioned that one similarity between French and English reading existed in the very sound-symbol systems. Serina noticed that:

> Sometimes in English a word sounds like a French word so you can know what it means...like *chamber* and in French it’s *chambre*.

17 Paragrams – words whose graphic representation differs slightly between French and English (Tréville, 1996)
For this student, the fact that *chambre* and *chamber* possessed similar letter-sound association, she was able to gain meaning from the unfamiliar English word *chamber* through her understanding of its French cognate *chambre*.

Even at this stage in their first and second language development, these FI students were clearly able to analytically reflect on the two languages they know and draw examples from the various aspects of French and English. The next section provides examples of how these comparisons can prove useful to the students’ language learning.

**Benefits of bilingualism**

The first Bilingual Strategy Interview rendered some interesting results regarding how Grade Five French Immersion students felt they have benefited from being exposed to two languages throughout their school careers. By the end of Grade Five, the participants of this study would have had six years of French instruction. Students revealed that increased reading, increased vocabulary and increased future opportunities were by-products of consistent exposure to English at home and French at school.

*Increased reading and vocabulary*

In response to questions including how the knowledge of French and English could benefit student learning, the participants interviewed made mention of how their bilingualism improved their reading and vocabulary skills. Specifically, one
student explained how knowing French and English and the act of reading increased the amount he read. He suggests that by reading in L1 and in L2, bilingual students read twice as much as they would if they were only able to read in one language. This increase in the amount of reading helps a bilingual student to be a better reader because they engage with texts in two languages. Not only can the bilingual reader then gain knowledge from reading in L1 but also they can gain even more knowledge from reading L2 as Daniel suggests:

Actually, I think [knowing both French and English] helps you be a better reader. Knowing more…’cause instead of knowing a lot about one language, you know a fair amount about two languages.

Students also indicated that they experienced an increase in vocabulary due to their knowledge of two languages. Dora refers to the expanded vocabulary she possesses due to her bilingualism:

I guess it makes me a better reader because I know more words than just the English ones or just the French ones. And it’s really interesting… knowing both those languages.

Some participants stated that in general, they found French reading more difficult than English reading. Many were sure to qualify the latter statement by mentioning that as anglophones they knew more English than French. As all participants in the study were anglophones living in an English city who had begun
their French education in Senior Kindergarten, it is logical that their knowledge of English surpasses that of their French. One of the participants, Melissa stated that her English reading was better than her French reading, and further explained the strategies that she employed to benefit from her bilingualism:

I know how to read in English better than I know how to read in French. And when I read in French all I need to know is the accents and what the words are and I just have to say them and just think of them and it's not much different.

Students also emphasize that there were other benefits related to their bilingualism. Even at this intermediate stage of their language development, participants were able to analyse and recognize how being bilingual can offer them some linguistic advantages such as more practice in reading and an expanded vocabulary.

**Increased social opportunities**

Owing to their simultaneous learning of French and English, students noticed how French and English benefited them as a citizen of a bilingual country. The participants seemed fully aware of the bilingual opportunities in their surroundings, and expressed how fortunate they were to be able to take full advantage of French and English experiences. Aaron suggested a person’s
bilingualism allows them to travel all across Canada where reading opportunities may occur in either French or English:

I think it would be a better reader because as a citizen of Canada these are both our official languages. There are some things that are just in French. If some people are visiting Quebec they can read road signs and everything and shop signs.

**L1 and L2 Interference Issues**

In response to a question referring to their knowledge of French and English and whether this knowledge is advantageous or disadvantageous as a reader, some students (n=3) reported the knowledge of French and English being both a benefit and a disadvantage. The other students (n=7) were very confident in stating that knowing how to read in French and English could only be beneficial. Those participants who recognized some disadvantages of knowing how to read in two languages, often spoke about cross-lingual interference.

Participants gave examples of French-English interference with spelling and pronunciation in order to explain interference as one example of the disadvantages of knowing two languages. Interference with spelling is a fairly common challenge for junior French Immersion students (St. Pierre, Laing & Morton, 1995). Nevertheless, as the purpose of the Bilingual Strategy Interview was to
examine reading in French and English, I will only report on difficulties students found with interference during reading.

**Interference with pronunciation**

Participants who made mention of the disadvantages of being able to read in French and English used the potential problem of miscuing as an example. Students explained that for bilinguals there is the possibility of negatively transferring knowledge about the French symbol-sound system to English pronunciation. During the interview, Margaret suggested that if a bilingual student is not aware of the differences between French and English pronunciation of cognate words, a student could erroneously pronounce a word:

[knowing both French and English] could cause problems because you might pronounce it wrong, because you know the French word for it but you might not know the English word.

It is absolutely fascinating to discover how aware Grade Five French Immersion students are of their L1 and L2 language acquisition, learning and development. It is important to note that the results of the First Bilingual Strategy Interview were collected before the students’ participation in the three Metalinguistic Lessons. Without any direction other than simple questions regarding their opinions on aspects of French and English reading, participants were able to articulate draw specific examples of the similarities and differences
between French and how they as bilinguals are in an excellent position to benefit from this juxtaposition. In the following section, I present the results of the second Bilingual Strategy Interview, which was conducted after the three Metalinguistic Lessons, and the administration of the two Short Answer Instrument tasks.

**Second Bilingual Strategy Interview**

During the last week of the study, a second Bilingual Strategy Interview was conducted with the same randomly selected 10 participants who were interviewed during the first Bilingual Strategy Interview. The main purpose of this second interview was to compare the student responses in the first interview to those of the second, to elicit student opinion on the metalinguistic lessons and to examine students' impressions of the research study in general. This section presents student responses to the similarities and differences between good French and English readers, the Metalinguistic Lessons, the advantages and disadvantages of reading in French and English and the reading strategy students employ when faced with difficult vocabulary in L1 or L2. The following section does not repeat first interview responses but rather highlights how student responses in the second Bilingual Strategy Interview may have differed from the first.

**Reading Issues inherent to French or English**

During the second Bilingual Strategy Interview, students were once again asked to identify characteristics that a good French reader possessed and
characteristics that a good English reader possessed. The purpose of repeating
these questions from the first Bilingual Strategy Interview, was to investigate if
student responses to these questions differed after exposure to three Metalinguistic
Lessons. The participants interviewed indicated that good English readers need to
know the alphabet, the English sound system, the English grammar system, the
meanings of words and the spellings of words. The participants posited that a good
French reader possessed many of the same qualities as a good English reader
except that a good French reader must also be aware of accents and gender.
Except for two students, the responses resembled those from the first Bilingual
Strategy Interview.

Interestingly enough, Dora mentioned that a good English reader might have
knowledge of another language like French so that their French knowledge may
help them with a possible unfamiliar English word.

..it helps to be a French reader and an English reader because if you don’t
know a word in English you can compare it to a French word and you can
see if it’s the same or different.

In this way, Dora is indicating that an anglophone’s skill in English reading
could be improved by their knowledge of a related language that could provide
some information about an unknown English word. Camille responded to the
question relating to the characteristics of a good English reader in a similar
manner. However, she mentioned that she monitors her English text as she reads in order to identify potential cognate words that are unfamiliar in English but familiar in French. Even though the Metalinguistic Lessons addressed positive transfer in reading from French to English, Camille reported that a good French reader is aware of the potential for positive transfer from English to French.

[To be a good French reader] you need to know how to read the words, look for words that are in English and that they may understand better in English than in French.

Other students also discussed the possibility for transferring knowledge from French to English and from English to French in response to other questions in the Second Bilingual Strategy Interview. These responses will be discussed later in this chapter.

Reading Strategies

In comparing the responses from the first Bilingual Strategy Interview to that of the second, it is obvious that there is an increase in the frequency the participants mentioned the potential benefits of knowing French on English language learning. During the second interview, participants more consistently discussed positive transfer from French to English and cognates.
L2 helping during L1 language tasks

Throughout the second Bilingual Strategy Interview, participants were discussing the knowledge they gained after having participated in the Metalinguistic Lessons. In the first interview, seven out of the 10 students indicated that knowing how to read in French helped them when they were reading in English. During the second interview, eight out of ten students indicated that being able to read in French helps them when they read in English. Even though this increase is not significant, throughout the first and the second interviews participants were consistently referring to using French as a language resource. Students discussed L2/L1 transfer in response to questions repeated from the first interview where only a few participants mentioned French-English transfer. For example, few Grade Five students (n=3) stated in the first interview that they used French to figure out what a word means in English. During the second Bilingual Strategy Interview, more students (n=8) indicated that they would think about French if they came across an English word they did not know. The following quotes from the second Bilingual Strategy Interview present the strategies students reported they would employ when faced with unfamiliar English word. Melissa said:

Yes, when you’re reading in French they are some words you won’t understand and you can look them up in the dictionary or... and then
sometimes French words look like English words and you could probably guess what those French words would mean because of the English words.

And Jennifer commented:

Sometimes when there’s um an English word that I don’t really understand then I could compare it with a French word to help if it make sense.

It is notable to mention there was an increase during the second interview in the number of students who reported they would use French as a language resource when faced with a comprehension difficulty. Three participants in the first Bilingual Strategy Interview stated that they use French as a strategy to help them figure out the meaning of English words. In the second interview, eight students reported the same thing. During the discussion, I will examine if this increase could be correlated to the participants’ involvement in the three Metalinguistic Lessons.

**Student Reflections on comparing French and English**

In the post Student Interview, a majority of students interviewed (N=8) reported that knowing both French and English would help them to become better readers. The students qualified these responses by suggesting that French can help them better understand English and that the knowledge of two languages increases the volume and the range of reading in which the bilingual students can engage. Anne responded that:
I think it will help me be a better reader because all the punctuation is the same and it won’t get you mixed up. And it has the same alphabet and all the sounds, you learn more. And then if there’s words that you don’t know in English and they’re like French words or the other way around that could help.

**Benefits of bilingualism**

The Second Bilingual Strategy Interview explicitly asked participants how they may use French in their English language activities in the future. Most students articulated that they would use their French in English language activities in the future in two ways. Firstly, students stated that they would be able to use their French in a future job environment. Daniel suggested that being bilingual in a job situation would be beneficial if they were required to communicate with French clients or colleagues. He suggests:

I think if I grow up and I try to get a job that has both French and English and I have to work with people that are French and people that are English and I have to write things in French and English.

Secondly, the participants mentioned that if they were to come across an unfamiliar English word, they would attempt to use their French knowledge in order to make better sense of the word and vice versa. Jennifer specifically stated
that she finds knowing another language helpful because of cross-lingual strategies:

Maybe if there is like an English word that I’ve forgotten or something. Or if it’s written in French and I understand it in English or if it were in French and I’d understand it in [inaudible]. If it were in English I’d probably understand it in French too.

Three Metalinguistic Lessons

During the third week of the study, the participants took part in three Metalinguistic Lessons. These activities encouraged students to capitalize on their French vocabulary in order make sense of unfamiliar English words that are morphologically similar in French. The treatment explicitly taught students how to identify a French-English cognate and establish if the cognate could help the students to understand the meaning of an English word during reading. One of the questions in the second Bilingual Strategy Interview, conducted after the Metalinguistic Lessons, elicited information about what participants learned during the treatment.

Most students remembered learning about words that were similar in English and in French during the metalinguistic lessons. The participants said that learning about how French words could sometimes help them figure out unfamiliar English
words was one of the most useful parts of the metalinguistic lessons, as both Daniel and Serina indicated. Daniel said:

I found the part where if you look at the word good and you find a word that’s in French then sometimes you can find out the English word. And if you have a good list of words that mean the same in English and in French and that are spelled the same, then you’d have a lot... if you have a good list of that in your head you’d be able to spell a lot.

Serina echoes his opinions:

Well, the French words that help you in English, that was useful because some of the words I didn’t know when we were learning that. Really helped... knowing French really helped in English and... I found it actually all useful there was... most of the things I would use if I was reading and I came across a word I didn’t know. Not really anything wasn’t useful.

Very few students were able to think of aspects of the metalinguistic lessons that were not useful. Only one student interviewed in the second Bilingual Strategy Interview found it frustrating at times to analyse an English word in which she was unable to find a familiar French word. In one of the three Metalinguistic Lessons, the participants were required to read English sentences that contained French-English cognate words. The students had to underline the unfamiliar English words and indicate how they could figure out what the underlined words
mean. The student was not successful in identifying morphemes in the given English words that resembled a familiar French word. As she could not see how the unfamiliar English word was morphologically similar to a French word, Jennifer indicated she did not find that particular activity helpful to her language development:

Some of the words that I couldn’t really find any small word or any word at all that wouldn’t give me an idea so… that was difficult.

**General Impressions about the Research Project**

At the end of the second Bilingual Strategy Interview, participants were given an opportunity to comment on their involvement in the research study. The inclusion of this opinion question provided more information on the usefulness of metalinguistic instruction for Junior students and to provoke further discussion on this topic.

In general, the students said that they enjoyed participating in the research project. Many seemed surprised that this cross-lingual potential existed. The following quote from Serina demonstrates how the possibility of L2 to L1 language transfer during reading may facilitate English reading for a bilingual student:

Well, I never would have thought that French would help me in English but now I know that it would be a lot easier if I didn’t know a word in English
and I come across an English word and I can use my French. And maybe it will help.

Students also found the three Metalinguistic Lessons fun and engaging and many said that they would use the cross-lingual strategies they learned during the Metalinguistic Lessons in the future. Dora expresses how much she enjoyed learning new language strategies and expanding his vocabulary:

I found a lot of it interesting because there was so many words that I’ve never heard before. But then of course when you mentioned just comparing a French word to an English word, then I kind of knew how to figure out the meaning of the word. And I also found it interesting because of all the different words that I heard and that it’ll help for me to use those words maybe sometime. And then now I know new words.

**Comparing the First and Second Bilingual Strategy Interviews**

In an effort to examine the effect metalinguistic treatment may have had on student responses during the Bilingual Strategy Interviews, the responses in both interviews were coded and tabulated. Table 13 shows the frequency of one of the selected themes (L2 helping L1) that was mentioned during the pre-interview and the post-interview.
Table 13. Frequency with which “L2 helping L1” strategy was mentioned in pre and post interviews

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<th>L2 helping L1</th>
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<tr>
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<td>Pre</td>
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<td>Jamal</td>
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<td>Serina</td>
<td>1</td>
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<tr>
<td>Daniel</td>
<td>0</td>
</tr>
<tr>
<td>Camille</td>
<td>2</td>
</tr>
<tr>
<td>Jennifer</td>
<td>1</td>
</tr>
<tr>
<td>Dora</td>
<td>1</td>
</tr>
<tr>
<td>Anne</td>
<td>2</td>
</tr>
<tr>
<td>Margaret</td>
<td>3</td>
</tr>
<tr>
<td>Melissa</td>
<td>3</td>
</tr>
<tr>
<td>Aaron</td>
<td>2</td>
</tr>
</tbody>
</table>

It is interesting to note the increase in comments referring to L2 helping L1 from the pre-interview to the post-interview. One must keep in mind that the questions posed during each interview protocol were not the same, however, the coding scheme used to identify themes was identical for both the pre-interview and the post-interview. The question referring to language transfer from French to English during reading was repeated in both the first and second Bilingual Strategy
Interview. Except for two students, Margaret and Melissa, the other students interviewed referred to L2 to L1 transfer more frequently in the second interview than they did in the first. It seems that after some metalinguistic training on how French Immersion students’ knowledge of French can be beneficial during English reading tasks, students were more aware of this potential and were more likely to discuss it.

**Summary of Qualitative Results**

The main purpose of the Bilingual Strategy Interview was to collect information from a sample of Grade Five French Immersion students about their knowledge of reading in their two languages. Of the sample of 10 Grade Five French Immersion students, seven students were capable of describing the benefit of French-English knowledge as a reading strategy before the instruction of L2 to L1 transfer. These participants also described the ways they use their metalinguistic strategies to improve comprehension, including recognizing cognates, translating and transferring. A surprising discovery that came out of the first Bilingual Strategy Interview was the number of students who were also quite aware of tacit knowledge of the relationship that exists between French and English. Students reported having made use of their L1 during L2 reading activities as well.
The second Bilingual Strategy Interview also revealed that students appreciated the opportunity to explore the potential their bilingualism offers them. Participants were able to articulately identify ways that their knowledge of French and English will assist them in their future as readers, writers and speakers.

The following chapter will discuss the relevant information uncovered in the Quantitative and Qualitative results of this study and relate these findings to the two research questions posed in Chapter 1.
CHAPTER SIX

DISCUSSION

The Organisation of the Discussion

This chapter will discuss and provide an interpretation of the findings from the Short Answer Instrument Tasks and the Bilingual Strategy Interviews in an attempt to offer answers to the research questions guiding this study. An explanation of where the present study fits into the current research in related areas will be offered. The study’s limitations are then discussed in terms of the research design and chosen instruments. Finally, recommendations for future research in this area will be outlined along with concluding remarks summarizing the pedagogical policy level implications of this research.

Semantic Transparency, Metalinguistic Instruction and French Immersion

Past research has indicated that bilingual students may benefit from explicit instruction on how to make use of cognate relationships that exist between the students’ L1 and L2 (Harley, Hart & Lapkin, 1986). In fact, recent studies conducted with Hispanic students in the US have demonstrated some evidence that when learning an L2 that is similar to students’ L1, they may engage in cross-lingual transfer not only to recognize individual words but also to learn the derivational morphology of these words (Hancin-Bhatt & Nagy, 1994). Unfortunately, many of these US studies were carried out without having involved
specific metalinguistic instruction before testing students. Falter (1988) examined the effect of metalinguistic instruction on the bilingual literacy skills of Grade 5 French Immersion students. In her study, Falter engaged the students in an activity that required them to use their French to make sense of English cognates in context. Disappointingly, this lesson was not followed up by a vocabulary test stressing cognates as a dependent variable.

The present study attempted to examine what effect metalinguistic instruction may have on Grade 5 French Immersion students’ ability to understand English words that are morphologically similar to French. The questions posed in this investigation were:

1) To what extent do EFI students use French as a language resource when they encounter unfamiliar English words that are cognates or that have morphologically similar affixes?

2) Do EFI students use their knowledge of French when reading in English more frequently after being taught explicitly about positive transfer from French to English?
Discussion of the Research Questions

Using French as a Language Resource

Results from the Short Answer Instrument pre-test were helpful in answering the first research question of this study examining the extent to which Grade Five French Immersion students use French as a resource when faced with morphologically similar English words. The results from the pre-SAI indicated that some students were able to use French as a language resource in order to understand an English cognate. More than 50% of students reported having used their knowledge of French to help them understand three of the fifteen words appearing on the task completed before exposure to metalinguistic instruction (regarded, grandeur and fatigue).

The fact that the any Grade Five French Immersion students were able to attribute their understanding of the English words regarded, grandeur and fatigue to their knowledge of French before metalinguistic training, exemplifies Vygotsky's (1962) argument that learners of second languages can transfer knowledge from L1 to L2 and from L2 to L1:

[A] child can transfer to [a] new language the system of meanings he already possesses in his own. The reverse is also true – a foreign language facilitates mastering the higher forms of the native language. (p. 110)
The participants who indicated that they accessed information about these English words from pre-exposure to their cognate equivalents in French were actively engaging in positive transfer from L2 to L1. However, when considering that the Short Answer Instrument contained 15 words for which the potential for positive transfer from French to English existed, students in fact performed less well on the task as a whole than I would have expected as an FI teacher.

However, the qualitative results lent some support to the hypothesis that Grade Five French Immersion students are in a good linguistic position, having been exposed to instruction in both English and French, to transfer knowledge from one language to another to help with comprehension. During the first Bilingual Strategy Interview, seven of the ten students interviewed reported that their knowledge of French and English would help them become better readers. The students also stated that knowing French helped them when they read in English. Even without specific training on how to positively transfer from French to English when encountering morphologically similar words, participants indicated that language transfer in both directions (from French to English and from English to French) was occurring occasionally during reading activities.

In fact, other research would suggest that the ambiguous results offered from the first Bilingual Strategy Interview and the Short Answer Instrument are not
surprising. In the Harley, Hart and Lapkin study (1986), the researchers indicated that specific instruction may be necessary in order for French Immersion students to fully benefit from salient information cognates carry. The qualitative results from the first Bilingual Strategy Interview indicated that some Grade Five French Immersion students were already aware of L2 to L1 transfer during reading and use it as a strategy. However, as the quantitative results from the Short Answer Instrument pre-test demonstrate, not all students took advantage of the dual linguistic resource that they possess. Metalinguistic training was obviously necessary.

**The Effect of the Metalinguistic Treatment**

The second research question in this study aimed at investigating the effect that metalinguistic instruction may have on junior French Immersion students’ ability to make use of recognizable French cognates or morphemes in order to understand English words. The three Metalinguistic Lessons taught during the present study attempted to explicitly train students to positively transfer hidden semantic knowledge from French to English when the occasion arises.

The results from the post-test Short Answer Instrument demonstrated that the Metalinguistic treatment did have some effect on the students’ transfer abilities. 50% of participants were able to define nine cognate words in the post-test
compared to five cognate words in the pre-test. On average, the mean scores that participants received for their definition of morphologically similar words improved for 13 of the 15 words appearing on the Short Answer Instrument; for four words the differences were statistically significant. The majority of the Grade Five volunteers also improved on their ability to use cognate words correctly in sentences. 50% of participants were able to use ten cognate words in sentences during post-testing compared to seven cognate words in pre-testing. On average, the post-test mean scores that participants received for their use of morphologically similar words in sentences improved for all of the 15 words appearing on the Short Answer Instrument, one of which improved significantly. Finally, when the definition score and the sentence score were combined, the student post-test mean score results improved for all words except *justify* which stayed the same. After having been exposed to lessons on cross-lingual transfer, participants improved significantly their abilities to define and use in a sentence six of the fifteen cognate words (*mutton, portal, reverie, utilize, corps, fatigue*).

Students also indicated that they used French more frequently as a strategy during post-testing than during pre-testing to help them define a French-English cognate. Cross-tabulation results indicated that for 9 of the 15 words, there was a significant increase in the number of students reporting that they used French to help them define a cognate word. Overall, participants improved their SAI mean
scores significantly from pre-test (mean 29.6, S.D. ± 11.8) to post-test (mean 36.2, S.D. ± 10.7). The increase in the reported use of French as a language resource may provide some reason for their improvement on the Short Answer Instrument.

**Direct Cognates**

The words that students were most likely to define using knowledge of French were generally direct cognates. It is logical that participants more easily identified familiar French words whose graphic representation was identical to that of the English cognate. Not surprisingly, the participants gained more salient information from words that were direct cognates in the SAI than those words that were partial cognates. Of the fifteen words used in the Short Answer Instrument *fatigue, utilize, grandeur* and *corps* were all homographs or cognates that possessed an identical orthographic form in L1 and L2. *Fatigue, utilize* and *corps* were three of the six words that students were able to define and use significantly better after the Metalinguistic treatment. *Utilize* had the highest total mean score for both pre-test and post-test. Once students were able to recognize the cognate, they could invoke that prior knowledge to comprehend the English sentence at hand.

Nevertheless, participants’ scores (both in the pre-test and post-test) for *grandeur* were quite poor (pre-test mean [1.0] post-test mean [1.29]). When
coding the student definitions of this word, we noticed that participants directly transferred the meaning of *grandeur* in French (characteristic of size or largeness) to ‘grandeur’ in English (greatness, majesty, and splendour). As a result, their definition and use of the word in a sentence was consistently inaccurate. Even the phrasal prompt in which ‘grandeur’ was used appeared slightly ambiguous, as the difference in nuance was not helped by the context. In *the grandeur of Niagara Falls is awesome*, if one were to replace ‘grandeur’ with size or greatness, the sentence still makes sense. During coding, the other rater and I also found that the participants were often using and describing *fatigue* as an adjective (ex. When she came home from school she was fatigue) and not as a noun (ex. My dad was grumpy from fatigue). Students were transferring not only their knowledge of the meaning of *fatigué* in French but also its part of speech in French. Unfortunately in this assessment, the transfer of a word’s lexical function from French to English may have caused students to inaccurately define a word.

**The study results and the previous work in the field**

The results from the present study contrast with some previous work done in the field of first-language development in the French Immersion context. For example, the Harley, Hart and Lapkin cross-sectional study (1986) found that “with respect to vocabulary skills, no evidence was found that immersion students were benefiting from a knowledge of cognates in French” (p. 317). The students in
the latter study did not participate in any treatment on French-English cognates. In the present study, the Short Answer Instrument required students to make use of their French knowledge to define English words and use them in a sentence. The pre-test results did demonstrate that some French Immersion students were using their French as a resource in order to make sense of English words, especially with those words that were direct cognates. Students in the present study were drawing on their previous knowledge of a French word without any specific instruction on the possibilities of positive transfer from L2 to L1.

On the other hand, the pre-test results of the Short Answer Instrument also paralleled other research done by Nagy, García, Durgunoglu and Hancin-Bhatt (1993) with Spanish bilingual upper elementary students. In this 1993 study, the researchers concluded that their findings demonstrated “a transfer of Spanish lexical knowledge to reading in English” (p. 252). Nagy et al. further postulated that “bilingual, biliterate students should be able to use their cognate awareness to help them read unfamiliar vocabulary in their two languages” (p. 253). It is important to note in the Nagy et al. study there was no mention of any specific instruction on Spanish-English cognates or positive transfer potential. In my study, the first time the Grade Five French Immersion students completed the Short Answer Instrument they had not participated in the Metalinguistic Lessons. Yet, there were some participants who still reported a use of French to help with their
definition of an English cognate word. It is quite possible that some students easily recognize L1 and L2 cognates and are then able to use this knowledge cross-linguistically. The second research question in the present study aimed to investigate if specific metalinguistic instruction affected students’ use of French as a language resource when encountering English vocabulary.

When comparing the mean results of the post-Short Answer Instrument to that of the pre-test, a significant improvement was evident. In addition, on the word level, mean scores improved from pre to post (except for justify which experienced no change). Six of the fifteen word mean score improvements were significant. The Metalinguistic Treatment did seem to affect the Grade Five Immersion students’ ability to define and use cognate words. This finding is consistent with the Harley, Hart and Lapkin (1986) suggestion at the end of their cross-sectional study, “..in the area of vocabulary, immersion students might need explicit instruction pointing out cognate relationships between their two languages in order to show vocabulary benefits in the L1” (p. 317).

**Pedagogical Implications of the Study**

**General Language Education Syllabus**

I think the results of the present study lend much support to the importance of including a general language education component in junior Immersion programs (Stern, 1992; Little, 1997). The situation in which Grade Five French
Immersion students are placed is quite propitious, in that students have acquired enough French and English to recognize the similarities that exist across languages. The junior French Immersion classroom must then be equipped to take advantage of the dual-linguistic potential stored in its students. Stern (1992) propounds several ideas about how to build on “learner’s metalinguistic awareness as a psychological basis for a general language syllabus” (p. 244).

The goals for the syllabus as outlined by Stern should be threefold:

..it should enhance the learning of the target language; it should provide the student with a set of techniques and a body of knowledge as well as with the outlook needed for learning other languages; and it should enable the student to relate the target language to other educational and social activities (p. 251).

A metalinguistic component should be part of second language curriculum with the goal of enhancing the L2. At the same time, one cannot ignore that where the potential exists (as it does between any two structurally similar languages like French and English) metalinguistic instruction can also enhance students’ L1 in an L2 classroom. The teaching of metalinguistic skills to junior French Immersion students could provide many connections between the students’ L1 and their L2 of which they were not aware. It helps students to become more reflective about language use in general and hence develops an awareness of what language is and
how it functions. Metalinguistic instruction in classrooms creates a forum where students can question and experiment with the languages they know. And as the results from the Bilingual Strategy Interviews indicated, cross-lingual transfer is certainly not unidirectional. Students should be encouraged to explore the similarities and differences between both the target language and their mother tongue in an effort to enhance the learning of the either language. In this way, students become aware that L2 can be useful to the learning of their L1 and vice versa.

Metalinguistic instruction also offers students a “blueprint” for language learning as Stern argues:

People not only use language but are also conscious of language and reflect and comment on it. [Metalinguistic awareness] is stimulated through the various forms of language education across the curriculum. Second language learning further develops such metalinguistic awareness. (Stern 1996, p. 244).

Through heightening awareness of how their L1 and L2 are connected, students learn about word meaning, lexical items and pronunciation. Some of these concepts may be inherently possessed in the L1 in which case the language learner can draw on them to help understand the L2. In other cases, like the recognition of a familiar French-Latinate stem in an unfamiliar English word, the transfer from
L2 to L1 is effective. Vygotsky (1962) best articulates the link between two-way language transfer and metalinguistic awareness:

A foreign language facilitates mastering the higher forms of the native language. The child learns to see his native language as one particular system among many, to view phenomena under more general categories, and this leads to awareness of his linguistic operations. Goethe said with truth that 'he who knows no foreign language does not truly know his own. (p. 110)

Stern proposes that an effective general language education syllabus should relate the target language and skills learned in learning L2 to other subjects in the curriculum. The process of positive transfer as taught through the Metalinguistic Lessons offers much potential for learning in both the French and English language arts components of a junior French Immersion program. One of the outcomes in the Grade Five Reading section of the Ontario Curriculum, Grades 1 – 8 was to "identify root words, prefixes, and suffixes, and use them to determine the pronunciation and meaning of unfamiliar words" (Ontario Ministry of Education, 1997, p. 35). The Metalinguistic Lessons conducted during the present study aimed to train students to discover meaning from unfamiliar English words through the potential identification of a French-English cognate. Junior French Immersion students tacitly possess two resources upon which they can draw in order to
determine meaning from unfamiliar English words. An effective English Language Arts programme offered to junior French Immersion students would encourage potential cross-lingual influences, like etymological information, that a Latinate language like French could provide.

Metalinguistic learning in a general language education class would enhance not only students’ conceptual knowledge (recognition of the cognate stem) but their skill knowledge (using the cognate stem to invoke meaning). One aspect of the third Metalinguistic Lesson required the students to determine whether a meaning they attributed to a cognate word made sense visually, syntactically and semantically (see Chapter 3 for details). The purpose of this activity was to engage students in a problem-solving process which established if an English meaning a student may have accorded to a cognate word was suitable or not. This same type of thinking processes required in identifying the cognate root, attributing a meaning to the English word and figuring out whether that meaning is suitable or not resembles that of the scientific or problem solving method. In this way, junior students are encouraged to take risks and experiment with language. It is through the hypothesis testing process of metalinguistic activities that students learn about their L1 and their L2. If junior students use this “problem-solving” approach to decoding language along with the other effective reading strategies that participants discussed during the Bilingual Strategy Interview they would have a
myriad of rich resources available to them in order to become successful readers in both languages.

Metalinguistic activities can be carried out in any curricular subject. History, geography, mathematics, science and language arts are disciplines that encompass academic language that may require an enhanced understanding of Latinate words. All teachers of junior French Immersion students should be made aware of the useful language potential bilingual students have stored in their mental lexicons. It would seem that from the present research and past studies, using French as a language resource when learning in English or vice versa does not occur incidentally. Both teachers and students in French Immersion programs should work together to capitalize on their French-English knowledge to help learn about new words and concepts. Cummins (2000) proposes:

When students know some of the rules or conventions of how academic words are formed, it gives them an edge in expanding their vocabulary. It helps them figure out how to form different parts of speech from these words. Bilingual students in particular can identify words that derive from Greek and Latin sources which may have cognates in Spanish. (p. 1)

The same would be true for French. In an ideal bilingual context, propitious for cross-lingual learning, the junior French Immersion classroom could serve to
heighten student awareness of how the English language works and elucidate certain meaning hidden in academic words in various subject areas.

**The Limitations of the Study**

One limitation of the study may lie in the way the results of the Short Answer Instrument were scored. It would be interesting to discover how participant responses to Item B “What was it about the word that helped you with its meaning?” correlated with Item A “Tell me what the underlined word means” and Item C “Make up a sentence using the word”. For example, for the word *portal*, even though there was a significant change in Item A and Item C over pre-test and post-test, there were only two more participants who attributed this change to thinking about French between pre (8/24) and post (10/24). It is quite possible that the way the Item B question was presented and the way the results from Item B were categorized underestimated changes in Item A and Item C in that it did not provide students enough of an opportunity to articulate the reason for their choices.

During the present research, the students seemed to enjoy the third Metalinguistic Lesson most; here they had to collaboratively figure out the meaning for difficult and rare English words in context. The fact that those sessions were not recorded may be another limitation of this study. A subsequent study could examine the student interaction and dialogue regarding whether the application of a French meaning to a given English word produced a deep
understanding about relevant metalinguistic second language issues. If we consider that three functions of output (Swain & Lapkin, 2001; Swain & Lapkin, 1995; Swain & Kowal, 1994; Swain, 1985) are noticing, hypothesis testing, and the reflective or metalinguistic function, the metalinguistic lessons essentially followed and facilitated this output model. The first and second Metalinguistic Lesson encouraged students to discover the similarities between the two related languages they knew. The third lesson provided meaningful input by placing students in a problem-solving context that required them to critically apply and test their hypotheses about L1 and L2 transfer. From what I observed, much of the learning about the semantic transparency of English words that had French cognates occurred through the combination of thinking about meaning in French, discussing possibilities in English, and hearing other opinions from peers.

There were other limitations in the present study. It was unfortunate that only one small junior French Immersion class made up the total number of participants in the study. A larger participant group may have provided more solid information about general trends regarding French Immersion student usage of French as a language resource during English reading tasks. Also, if there was a comparison group who did not experience the metalinguistic treatment, more information regarded the efficacy or the usefulness of the Metalinguistic Lessons may have been collected.
The same 15 English words appeared on the Short Answer pre-tests as on the Short Answer post-tests that were administered to the participants. Another limitation of this study would lie in the fact that it is difficult to determine if student improvement on SAI scores is due to their participation in the metalinguistic treatment or due to their incidental learning having through taking the same test twice.

**Future Research**

While this research may contribute some insight into how junior French Immersion students use the languages that they know during reading activities, a more complete understanding of this issue will only be obtained through a more in-depth analysis of the multiple factors that shape the metalinguistic awareness of bilinguals.

The present research study demonstrated that heightening the awareness of the potential for cross-lingual transfer helped students to gain more meaning from cognate words. Future research should aim to examine factors that influence bilingual students to recognize cognates in context. Word etymology (i.e. do both cognates derive from a Latinate affix), the degree of orthographic similarity (i.e. which letters differ in L1 and L2) and the placement of the cognate affix are all issues surrounding the study of cross-lingual transfer that deserve further attention in second language research.
In addition, a similar project could be conducted where students are placed in groups and are required to make sense of a complicated English text, rich in potential for transfer of L2 to L1. A close examination of how students question, make educated guesses and infer in the attempt to gain meaning through tape-recording and analysis of transcripts would provide relevant information on metalinguistic processes and student thought. Jiménez et al. (1986) provide a comprehensive appendix listing definitions and examples of reading strategies used by bilingual readers. A future study could investigate French Immersion student dialogue stimulated by collaborative metalinguistic tasks and code this dialogue using Jiménez’s list of bilingual strategies.

**Conclusion**

Recent discussions about when to introduce English language arts in French Immersion and the language of provincial testing for immersion students in Ontario will spark new requests for information regarding the effects of bilingual education on first language performance. We have always thought that learning French as a Second language in Canada had cultural, social and occupational advantages (Hart, Lapkin & Swain, 1998; Stern, 1992; Olson, 1983). It seems quite plausible that FSL and especially early immersion education has also academic advantages for French and English. Teachers and researchers must find ways to help learners make logical connections between the languages they know.
If learning a second language can positively affect first language development, we must discover how to create conditions that promote helpful connections between L1 and L2.

The findings in this study may shed some light on the potential for cross-lingual teaching in the English-to-French Immersion classroom. It may also inform the on-going discussions by French Immersion researchers and educators about when to introduce English language arts and what to teach during these periods. The ability to transfer knowledge from one language to another gives Immersion students an added resource on which they can draw, provided they are made aware that they possess this knowledge tacitly.
REFERENCES


Lisez les listes de mots ci-dessous. Indiquez (avec un X) si vous reconnaissez les mots et si vous pouvez les employer dans une phrase. Il n'est pas nécessaire de passer beaucoup de temps sur chaque item. Il est même préférable de donner votre première impression.

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<tr>
<th>Les mots français</th>
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<th>Pouvez-vous employer ce mot dans une phrase?</th>
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Appendix B - Short Answer Instruments A and B

This is not a test. I am simply interested in what you can tell me about the 15 English words that are underlined. This activity will not be used for marks. Do your best!

1. *He was pale from fatigue.*
   a) Tell me what the underlined word means:
   b) What was it about the word that helped you with its meaning? Please be very specific.
   c) Make up a sentence using the underlined word:

2. *Her face was quite jaundiced.*
   a) Tell me what the underlined word means:
   b) What was it about the word that helped you with its meaning? Please be very specific.
   c) Make up a sentence using the underlined word:

3. *Vitamins *fortify* the body against illness.*
   a) Tell me what the underlined word means:
   b) What was it about the word that helped you with its meaning? Please be very specific.
   c) Make up a sentence using the underlined word:
4. Cows, lions and elephants are **terrestrial** animals.

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:

5. *We had roast mutton for dinner.*

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:

6. *We can utilize this old radio at camp.*

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:

7. *He promenaded back and forth on the ship’s deck.*

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:
8. The cat regarded me anxiously when I picked up its kittens.

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:

9. The portal led to a long tunnel.

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:

10. The grandeur of Niagara Falls is awesome.

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:

11. Can you justify your act?

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:
12. A vacuum cleaner facilitates housework.

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:

13. A large hospital has a corps of nurses.

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:

14. She was so lost in reverie that she did not hear the bell ring.

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:

15. John is a sweet, gentle, amiable boy.

a) Tell me what the underlined word means:

b) What was it about the word that helped you with its meaning? Please be very specific.

c) Make up a sentence using the underlined word:
Appendix C – Coding Scheme for Short Answer Instrument

Tell me what the word means:
2 = same as one of dictionary meanings
1 = close to one of dictionary meanings
0 = not at all or N/R

What was it about the word that helped you with its meaning?:
1 = no / I don’t know / no reason
2 = I guessed (wild)
3 = I thought about French
4 = cues from other words in the sentence/ the context
5 = previous experience with the word in English/ prior knowledge
6 = word made me think about a similar word in English (affix)
7 = word made me think of another word in English
8 = miscued
9 = incomprehensible

Make up a sentence using the underlined word:
2 = student made a sentence
   = the sentence makes total sense
   = the sentence is accurate with dictionary meaning
1 = student made a sentence
   = the sentence does not make total sense
   = the sentence is not 100% grammatically correct
   = the student recognizes the Latin origin but uses another meaning
0 = no sentence
   = student made a sentence but it makes no sense at all
   = did not use underlined word in the sentence
Appendix D – First Bilingual Strategy Interview Protocol

1. What is reading?
2. Why do people read?
3. What does a person have to learn/do to be a good reader?
4. What is different about a person who is a good reader from someone who is not?
5. What languages do you know how to read in?
6. How is reading in English the same as reading in French? How is reading in French the same as reading in English?
7. How is reading in English different from reading in French? How is reading in French different from reading in English?
8. What does a person need to know to be a good English reader?*
9. What does a person need to know to be a good French reader? Is there any difference?*
10. Could knowing both French and English help someone to be a better reader or would it cause problems? How?*
11. Does being able to read in English help when you read in French? How?*
12. Does being able to read in French help when you read in English? How?*
13. What do you do when you are reading in English and you come across a word that you do not know? Anything else?*
14. What do you do when you are reading in French and you come across a word you do not know? Anything else?*
15. Do you ever use one of your languages (translate from one of your languages to the other) when reading English or French? Describe it to me.
16. How did you become a good reader in English? In French?

Adapted from Jiménez et. al (1996)
Appendix E – Second Bilingual Strategy Interview Protocol

1. What does a person need to know to be a good English reader?
2. What does a person need to know to be a good French reader? Are there any differences or similarities?
3. What do remember about last week’s lessons on the French and English languages?
4. What part of those lessons did you find useful? What part of those lessons did you find not so useful?
5. How do you think you might use French in your English language activities in the future?
6. Will knowing both French and English help you to become a better reader or do you think it will cause problems? How?
7. Does being able to read in English help when you read in French? How?
8. Does being able to read in French help when you read in English? How?
9. What do you do when you are reading in English and you come across a word that you do not know? Anything else?
10. What do you do when you are reading in French and you come across a word you do not know? Anything else?
11. Do you have any comments about the work that we did in this research project?

Adapted from Jiménez et. al (1996)
Appendix F – Metalinguistic Lessons

METALINGUISTIC LESSON #1

OUTCOMES
- in Vocabulary Building section of Reading in Grade 3, 4 and 5 in the 1997 Ministry of Ontario Language Arts 1-8 document, students will identify strategies (words parts, root words, affixes) to help them understand unfamiliar words
- students will know about the history of the development of French and English languages
- students will begin to observe similarities between languages

LESSON
Introduction:
- take out a map of the world
- have students name some countries on the map
- find Canada, Toronto, Ontario

Large Group Lesson:
- ask: what are our national languages? where do our national languages come from? Why do we speak these languages in Canada?
- find France and England on the map. Discuss the proximity of these two countries.
- students delve into their past knowledge of the history of these countries and the origin of their languages
- explain that the countries (France and England) have close histories, hence their languages developed quite similarly, derived from Latin and Greek
- prompt the students by asking: What is Latin? Where did it come from? Do they know any Latin phrases? Where is Latin used nowadays?

Partner Brainstorm:
- explain to students that they will break into partners to brainstorm and discuss briefly a particular topic. This brainstorming activity is called THINK, PAIR, SHARE and will last approximately 2 minutes. Students can jot down some notes in order remember all their ideas.
- Today’s THINK, PAIR, SHARE topic: what are some similarities between the English and French languages?
Large Group Closure:
- On a large piece of chart paper, write the THINK, PAIR, SHARE topic as a title. Record the ideas generated from the THINK, PAIR, SHARE partners. Post these ideas somewhere very visual in the classroom.

Homework:
- at home, look out for examples in English where a word is spelled exactly the same or almost the same in French. Bring as many examples as you can to class.

*For this homework assignment, it does not matter if the two words (English and French) mean the same thing or not. Give examples of coin, piano, journal, pain and explain how piano and journal have the same meaning and coin and pain don’t.
METALINGUISTIC LESSON #2

OUTCOMES
- in Vocabulary Building section of Reading in Grade 3, 4 and 5 in the 1997 Ministry of Ontario Language Arts 1-8 document, students will identify strategies (words parts, root words, affixes) to help them understand unfamiliar words
- students become aware of English-French cognates, types of morphologically similar words and how that can help their comprehension

LESSON
Introduction:
- share homework words (words that are spelled exactly the same in French and English) and record on chart paper in front of the class
- discuss meanings in English and French, differences and similarities
- draw an arrow beside the words that students decide are spelled the same in French and in English and that have a similar meaning in both languages

Large Group Lesson:
- mount five sentences on the board that embody direct cognates and/or morphologically similar words and ask students to read them silently to themselves
- read the sentences aloud with the whole class
- together, underline unfamiliar words
- what are all the ways that we can figure out what these words mean? (word attack skills and reading strategies)
- list them on the front board (see other words in the sentence, ask a friend/teacher, check the dictionary, find the root [affix] of the word)
- which words do we think knowledge of French might help us with the understanding of the English words? Box these words.
- how are these words similar to or different from French?
- stress that a knowledge of French does not always ensure we will gain meaning from an unfamiliar English words, but it may help 😊
Conclusion:
- at home, try to find one unfamiliar word in English with a part that is similar to a French word in a published text (newspaper, magazine, comic strip, book, advertisement, brochure). Use other reading strategies to help to find out the meaning.
- check the word with the dictionary. Does or does not the French meaning help with the understanding of this word? Why?
- Bring a copy of this published text to class or copy the text and bring it to class.
1. The waves quickly effaced the footprints on the shore.

2. In the book *Wuthering Heights*, Catherine was not a pliable yielding little character who would cry at the smallest insult.

3. Ailerons help to keep an airplane level while it is flying.

4. The skit will commence promptly at eight in the foyer.

5. "John's one of those young and extremely talented savant guys, but he's much more rounded than a savant. He's a perfectionist who cares as much about the film as the director." - Ben Stiller (talking about a famous musician)
METALINGUISTIC LESSON#3

OUTCOMES:
- in *Vocabulary Building* section of Reading in Grade 3, 4 and 5 in the 1997 Ministry of Ontario Language Arts 1-8 document, students will identify strategies (words parts, root words, affixes) to help them understand unfamiliar words
- students become aware of English-French cognates, types of morphologically similar words and how that can help their comprehension

LESSON:
Warm-up Small Group Activity
- in groups of 3, share the examples of English-French cognates

Large Group Activity
- review the explicit rules about what to do if we see a word we don’t know
- discuss how to check that their guesses make sense (visual – how does it sound?, syntactic – how does it look in the sentence?, semantic – does it make sense?)
- talk through an actual example using this strategy
- Write this example on the board along with the verification questions:
  *A malodorous stench was emanating from the swamp in the woods.*
- Explain:
  - Visual – read the sentence aloud to yourself (do any of these words make me think of anything in particular? Create an image in your mind)
  - Syntactic – think about the parts of speech working in the sentence (nouns, adjectives, adverbs, prepositions)
  - Semantic – does the meaning you guessed make sense with the rest of the words in the sentence?

Small Group Activity:
- hand out a sheet with 5 sentences containing some English-French cognates
- in the same groups of 3 ask students to repeat the large group activity in order to make sense of these sentences. Groups should be prepared to explain what they think the sentence means in their own words.
- take it up with the large group and discuss student thinking
- stress that a knowledge of French does not always ensure we will gain meaning from an unfamiliar English words, but it may help. Other reading strategies
will help to confirm or disaffirm information that French can give to English word meanings.
Small Group Language Activity

Read the following sentences with your group. Together, discuss and try to figure out what these sentences are saying. Be prepared to explain what strategies your group used to make sense of these sentences.

1. Read what Asthma Doc has to say about asthma and learn how to avoid another workplace malady called carpal tunnel syndrome.

2. The display of famous Renaissance pieces was cordoned off in the gallery.

3. The caravan of Arab merchants traversed the desert.

4. Where a store is located may enable the owner to vend more products and generate more business.

5. After the gingerbread men were baked, Father and Jasmine used chocolate chips to put droll expressions on the brown gingerbread faces.
Appendix G - Letters of Informed Consent

April 26, 2000

Dear Parent or Guardian:

I am a master’s student at the Ontario Institute for Studies in Education at the University of Toronto. I am conducting research that will examine how Grade Five Early French Immersion students use the languages they know (English and French) during English reading activities. I hope that my research will produce information about the positive influence of early French instruction on the English language development of French Immersion students. The title of this study is Semantic transparency of English words and Grade Five Early French Immersion Students. Your child’s class has been chosen for this important research project!

The study was approved by Peel’s External Research Screening Committee and the involvement of your child is voluntary. There will be 25 participants in the study. Volunteers will participate in one-to-one interviews (conducted in English) that will last about 30 minutes. They will then complete a French word recognition task and participate in three English reading strategy lessons that follow the practices of their usual English instruction period. Finally, they will respond to two English vocabulary tasks. Non-participating students will receive the classroom treatment as the lessons are a part of normal Grade Five Language Arts curriculum. The data of non-participating students will not be used in the study analysis. In total, the whole study will take just four hours of your child’s time over a period of a month including regular classroom instruction. The interviews will be tape-recorded.

Please review the following conditions for the participation of your child in this study prior to checking your agreement to allow your child to volunteer for the different data gathering components of this study.

This letter is to assure you that:
• Your child is free to decline to participate in this study without adverse consequences. Participation is voluntary and this research will have no bearing on the evaluation of your child.
• Participating in this study will not interfere with your child’s school work.
• The school board, school and individual participants have a right to withdraw at any time.
Your child’s involvement will be kept confidential. The classroom teacher will not see individual results only whole class summaries.

The researcher agrees not to report on interviews or observations with specific participants to other participants or persons external to the school in any way that might constitute a risk for those participants.

Interview tapes, transcripts, tests, documents and reports will be kept in locked files and access will be limited to the researcher and Dr. Corson.

All data from this research will be destroyed two years after the release of the final report.

A summary of the research results will be provided to the parents, teachers, students, administrators and the Peel Board of Education at the end of the study by contacting the researcher at the e-mail address provided below.

Neither the school nor the individual volunteers will be named in the thesis, subsequent publications or conference presentations.

To indicate that you will permit your child to volunteer for the study, please complete the attached consent form and return it to your child’s teacher as soon as possible.

Please direct any inquiries to Karen Devonish, kdevonish@oise.utoronto.ca or to my OISE/UT thesis advisor, Dr. David Corson (416) 923-6641 Ext. 2439.

Thank you,

Karen Devonish

I have read the consent letter and give permission to my child to participate in the study.

Name of your child (please print)

Name of parent or guardian (please print)

__________________________________________  __________________________
Signature                                      Date
April 26, 2000

Dear Administrator:

I am a master’s student at the Ontario Institute for Studies in Education at the University of Toronto. I am conducting research that will examine how Grade Five Early French Immersion students use the languages they know (English and French) during English reading activities. I hope that my research will produce information about the positive influence of early French instruction on the English language development of French Immersion students. The title of this study is *Semantic transparency of English words and Grade Five Early French Immersion Students*. Your school has been chosen for this important research project!

Peel’s External Research Screening Committee has approved this study. Your participation is voluntary. There will be 25 participants in the study. Student volunteers will participate in one-to-one interviews (conducted in English) with the researcher that will last about 30 minutes. A teacher volunteer will then administer a French word recognition task to student volunteers. Next the class will participate in reading strategy lessons that follow common English Language Arts outcomes. Finally, student volunteers will respond to two English vocabulary tasks. Non-participating students will receive the classroom treatment, as the lessons are a part of normal Grade Five Language Arts curriculum. The data of non-participating students will not be used in the study analysis. In total, the whole study will take just two hours of your regular class time. The interviews will be tape-recorded.

Please review the following conditions for the participation of your school in this study prior to checking your agreement to volunteer for the different data gathering components of this study.

This letter is to assure you that:

- The school is free to decline to participate in this study without adverse consequences. Participation is voluntary.
- Participating in this study will not interfere with your school routine.
- The school board, school and individual participants have a right to withdraw at any time.
- The school’s involvement will be kept confidential.
- The researcher agrees not to report on interviews or observations with specific participants to other participants or persons external to the school in any way that might constitute a risk for those participants.
Interview tapes, transcripts, tests, documents and reports will be kept in locked files and access will be limited to the researcher and Dr. Corson.

- All data from this research will be destroyed two years after the release of the final report.
- A summary of the research results will be provided to the parents, teachers, students, administrators and the Peel Board of Education at the end of the study by contacting the researcher at the e-mail address provided below.
- Neither the school nor the individual volunteers will be named in the thesis, subsequent publications or conference presentations.

To indicate that you would like to volunteer for the study, please complete the attached consent form and return it to me as soon as possible.

Please direct any inquiries to Karen Devonish, kdevonish@oise.utoronto.ca or to my OISE/UT thesis advisor, Dr. David Corson (416) 923-6641 Ext. 2439.

Thank you,

Karen Devonish

I have read the consent letter and would like to volunteer in the study Semantic transparency of English words and Grade Five Early French Immersion Students.

________________________________________________________________________
Name (please print)

________________________________________________________________________
Signature Date
April 26, 2000

Dear Teacher:

I am a master’s student at the Ontario Institute for Studies in Education at the University of Toronto. I am conducting research that will examine how Grade Five Early French Immersion students use the languages they know (English and French) during English reading activities. I hope that my research will produce information about the positive influence of early French instruction on the English language development of French Immersion students. The title of this study is *Semantic transparency of English words and Grade Five Early French Immersion Students*. Your class has been chosen for this important research project!

**Peel’s External Research Screening Committee has approved this study. Your involvement is voluntary.** There will be 25 participants in the study. Student volunteers will participate in one-to-one interviews (conducted in English) with the researcher that will last about 30 minutes. You will then administer a French word recognition task to student volunteers. Next, during regular class time, you will participate in instructing reading strategy lessons that follow common English Language Arts outcomes. Finally, student volunteers will respond to two English vocabulary tasks. Non-participating students will receive the classroom treatment as the lessons are a part of normal Grade Five Language Arts curriculum. The data of non-participating students will not be used in the study analysis. In total, the whole study will take just two hours of your regular class time. The interviews will be tape-recorded.

Please review the following conditions for the participation of your students in this study prior to checking your agreement to volunteer for the different data gathering components of this study.

This letter is to assure you that:

- You and your students are free to decline to participate in this study without adverse consequences. Participation is voluntary.
- Participating in this study will not interfere with your student’s school work.
- The school board, school and individual participants have a right to withdraw at any time.
- You and your students’ involvement will be kept confidential.
- The researcher agrees not to report on interviews or observations with specific participants to other participants or persons external to the school in any way that might constitute a risk for those participants.
Interview tapes, transcripts, tests, documents and reports will be kept in locked files and access will be limited to the researcher and Dr. Corson.

All data from this research will be destroyed two years after the release of the final report.

A copy of the research results will be provided to the parents, teachers, students, administrators and the Peel Board of Education at the end of the study by contacting the researcher at the e-mail address provided below.

Neither the school nor the individual volunteers will be named in the thesis, subsequent publications or conference presentations.

To indicate that you would like to volunteer for the study, please complete the attached consent form and return it to me as soon as possible. Please direct any inquiries to Karen Devonish, kdevonish@oise.utoronto.ca or to my OISE/UT thesis advisor, Dr. David Corson (416) 923-6641 Ext. 2439.

Thank you,

Karen Devonish

I have read the consent letter and would like to volunteer in the study *Semantic transparency of English words and Grade Five Early French Immersion Students.*

__________________________________
Name (please print)  

__________________________________
Signature  Date
May 4, 2000

Dear student participant:

I am a master's student at the Ontario Institute for Studies in Education at the University of Toronto. I am doing a project that will look at how Grade Five French Immersion students use the languages they know (English and French). The title of this study is *Semantic transparency of English words and Grade Five Early French Immersion Students*. Your class has been chosen for this important project!

**Peel's External Research Screening Committee has approved this study. You can participate in the study if you want to.** There will be 25 students in the study. You will participate in an interview and some lessons that will last only about 30 minutes. You will also complete three tasks, one in French and two in English. In total, the whole study will take just four hours of your time over a period of a month. The interviews will be tape-recorded.

Please read the following points prior to volunteering for the study.

- You can decide to not participate in this study without any consequences. Participation is voluntary and this research will not affect your marks.
- Participating in this study will not interfere with your school work.
- The school board, school and individual participants have a right to come out of the study at any time.
- Your involvement will be kept confidential. The classroom teacher will not see individual results only whole class summaries.
- The researcher, Karen Devonish, agrees not to report on interviews or observations with specific participants to other participants or persons outside of the school in any way that might constitute a risk.
- Interview tapes, transcripts, tests, documents and reports will be kept in locked files and access will be only listened to by the researcher and by Dr. Corson.
- All data from this research will be destroyed two years after the release of the final report.
- A summary of the research results will be provided to the parents, teachers, students, administrators and the Peel Board of Education at the end of the study by contacting the researcher, Karen Devonish, at the e-mail address provided below.
Neither the school nor the individual student-volunteers will be named in the thesis, any future publications or any future conference presentations.

To volunteer for the study, please complete the attached form and return it to your teacher as soon as possible. Please contact Karen Devonish, kdevonish@oise.utoronto.ca or to my OISE/UT thesis advisor, Dr. David Corson (416) 923-6641 Ext. 2439.

Thank you,

Karen Devonish

I understand that my parent has given me permission for me to participate in the study, but that I do not have to participate if I do not want to.

I agree to volunteer for the study, Semantic Transparency of English Words and Grade Five French Immersion Students.

YES______ NO______

______________________________
Name

______________________________
Signature Date
Appendix H – Background Questionnaire

Name: _______________________________________

Age: _______________________________________

Gender (circle one): Male Female

Languages spoken at home: _______________________________________

Put an X beside the level you started learning French:

I began learning French in Junior Kindergarten _____
Senior Kindergarten _____
Grade One _____
Other (explain) _______

Appendix I – Profile of the Pilot Participants based on the Background

Questionnaire

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10 boys, 20 girls – 30 students
### Appendix J – Profile of the Main Study Participants based on the Background Questionnaire

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6 boys, 18 girls - 24 students
Appendix K – Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning

“utilize”: Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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“amiable”: Cross-tabulation for SAI pre-test vs. SAI post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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"corps": Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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"facilitate": Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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"fortify": Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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“grandeur”: Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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"mutton": Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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“promenaded”: Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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"reverie": Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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"utilize": Cross-tabulation for SAI pre-test vs. post-test – Used French to help with defining meaning (McNemar (non-parametric test) for two related variables)

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