WORD ANALYSIS SKILLS:
A Study of Grade 10 Core French Students’ Knowledge of Derivational Morphology in their Second Language

by

GLADYS JEAN

A thesis submitted in conformity with the requirements for the Degree of Master of Arts
Department of Curriculum, Teaching, and Learning
Ontario Institute for Studies in Education of the University of Toronto

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Abstract:

Vocabulary knowledge is very important for reading in a second language. Many words encountered by L2 learners are not in their oral vocabularies, but their meanings can often be deduced because they are related to familiar L2 words through prefixation, suffixation, compounding, or through L1 (cognates). Studies show that learners who possess good word analysis skills are better readers. It is thus important to help students develop these skills to the fullest. In current core French materials, little attention is paid to the development of word analysis skills. The goal of this study is to find the extent of grade 10 core French students’ current knowledge of derivational morphology in French in order to provide practitioners in the field with diagnostically useful information that can be used as a basis for choosing appropriate reading materials, and for the development of learning materials focusing on word recognition strategies or skills.
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Introduction

In the field of core French teaching in Canada, vocabulary learning has, it seems, not received much attention in the last two decades or so. Even though scholars and practitioners have been debating for a long time how to best integrate the study of language conventions in communicative language teaching, the focus has mainly been on grammar. However, in recent years, studies of vocabulary acquisition have multiplied. As Schmitt and McCarthy (1997) noted, "the field of vocabulary studies is now anything but a neglected area" (p. 1). Lewis (1993) goes so far as to state that language is "grammaticalized lexis", not "lexicalized grammar". He is well known for his "Lexical Approach" which is based on having lexis as the organizing principle of L2 teaching. This view is reflected in comments from students who say that what they need most to express themselves more fluently is more words. McCarthy (1990) agrees: "No matter how well the student learns grammar, no matter how successfully the sounds of L2 are mastered, without words to express a wider range of meanings, communication in an L2 just cannot happen in any meaningful way" (p. viii). The recent focus on vocabulary however has not yet filtered down to core French classrooms in Canada if one considers the most recently published textbooks. Rarely do we see in place systematic word study sections, or suggested methodologies to introduce and consolidate new lexical items or to help learners decipher the meanings of new words and remember them. When attention is given to lexis, it most often takes the shape of word lists and ‘fill-in-the-blanks’ types of exercises that often test students’ existing knowledge of words rather than help them recognize or acquire new words.
Knowing more words is not only beneficial for students to express themselves orally and in writing in their L2, but also to be able to read; reading in turn helps students acquire new words. Proficient readers use strategies for interpreting new words. However, it is believed that the greater the students’ vocabulary the more successful they are at using strategies such as guessing from context. Laufer (1997) estimates that students need to know around 3000 word families (or 5000 lexical items) in order to be able to successfully guess from context, while Nation and Coady (1988) use the figure of 5000 word families (or 8000 lexical items). How to help students best acquire this basic vocabulary is no small challenge. The field of investigation is rather large. For the purpose of this study, the investigation has been narrowed down to the gathering of information regarding core French students’ word analysis skills, information which language educators could possibly use to help students increase their vocabulary size. Grade 10 was chosen for this purpose because it has the potential of showing what skills have been developed partly or fully and which ones are still to be developed after six years of compulsory French instruction (as is the case from grades 4 to 9 in Ontario and other provinces).

The development of word analysis skills is important; researchers have discovered that many English words encountered by L2 learners are not in their oral vocabularies, but according to Nagy and Anderson (1984) and White, Power, and White (1989) the majority of these words are related to more familiar ones through prefixation, suffixation, or compounding. The same can be said for French. As well, many of the words that FSL readers encounter have cognates in English. LeBlanc and Séguin (1995) have identified 23,160 pairs of cognates in English and French. The main question, however, is whether core French students’ knowledge of French prefixes and suffixes and of correspondence rules between English and French prefixes and
suffixes is developed enough for them to be able to interpret the vast number of derived French words and cognates they encounter in their reading. Finding an answer to this question is the main purpose of the present study, which will be attempted through the use of an adapted version of a self-report type Yes/No vocabulary knowledge test and through a word analysis skills test specifically designed for this study. It is hoped that the information gathered through this process will eventually be useful in helping to bring improvement to vocabulary instruction.
Chapter 1

Empirical Studies and Related Theory

1.1 Introduction

The literature review which follows will first attempt to define the field of derivational morphology that is going to be the focus of the present study. It will then present the main rationale for investigating students' knowledge of derivational morphology. Finally, since the present study involves assessing the extent of students' word analysis skills, this chapter will review the ways different studies have tested different aspects of derivational morphology. Results of studies related to the aspects of derivational morphology investigated in the present study will also be presented.

1.2 A Definition of Derivational Morphology

Morphology is the study and description of word formation in a language; it includes inflection (the change in a word that indicates case, number, person, or tense), compounding (the union of two or more words to form a new word) and derivation. Derivation is the chosen aspect of morphology for this study. Derivational morphology is concerned with the formation of new words by adding affixes to base words and with the rules governing the combination of stems and affixes. This study shares the view of Nagy, Diakidoy & Anderson (1993) that derivation is the
most abstract and difficult aspect of morphology that students must acquire and therefore deserves to be investigated further.

1.3 The Different Aspects of Knowledge of Derivational Morphology

1.3.1 Relational, Syntactic and Distributional Aspects of Knowledge of Derivational Morphology

Full knowledge of derivational morphology, according to Tyler & Nagy (1989), involves three different kinds of knowledge: relational, syntactic, and distributional. These three kinds of knowledge are defined as follows by these authors:

Relational knowledge is recognizing that words have complex internal structure and that two or more words may share a common morpheme, i.e., the ability to see morphological relations between two words that share a common base morpheme. It is the knowledge that create is related to creator in a way that me is not related to meter. Syntactic knowledge is knowing that derivational suffixes mark words for syntactic category. For example, syntactic knowledge is the tacit knowledge that regularize is a verb by virtue of being suffixed with -ize and regulation is a noun by virtue of being suffixed with -ion. Distributional knowledge has to do with the constraints on the concatenation of stems and suffixes. For instance, -ness attaches to adjectives but not to verbs, so quietness is a fine word in English while playness is not. (pp. 649-650)

Results from Tyler and Nagy's (op. cit.) study showed that relational knowledge is the
first aspect of derivational morphology to be acquired by L1 children, followed by syntactic knowledge. The present study will assess if the same is true for L2 students. Distributional knowledge appears to be the most sophisticated level of knowledge, and is acquired last. In view of the higher degree of language awareness needed to have some degree of distributional knowledge, and consequently the rather greater difficulty associated with test items designed to assess it, this study will not address the issue of distributional knowledge. It is likely that secondary school students in regular (core) French programs will not be at this stage yet in their development of morphological awareness in the L2 and testing it may only cause frustration and discouragement.

The present study, for the sake of clarity and because it is an important aspect of derivational morphology, will assess the knowledge of the meanings of prefixes and suffixes separately from relational knowledge, although authors such as Tyler and Nagy (1989) assess it as part of relational knowledge. The knowledge of the meaning of different common prefixes and suffixes is an important aspect to test because it can give an indication of students' ability to guess the meanings of unfamiliar derived words.

1.3.2 Knowledge of Correspondence Rules Between Cognate Suffixes in English and French

Another aspect of derivational morphology that has been the focus of a number of studies, this time specifically with L2 learners, and which is not included under the label of relational, syntactic or distributional knowledge, is the knowledge of correspondence rules between cognate suffixes in two languages. (For example, the English suffix -ty that corresponds to the French -té.)
The present study will try to measure students’ knowledge of these correspondence rules as they apply to English and French. It will focus on suffixes rather than prefixes due to the fact that prefixes are not among the most common affixes for which correspondence rules can be identified: 2% of the transformations occur at the beginning of words compared to 75% at the end of words according to a count made by LeBlanc and Séguin for a dictionary to be published and reported by Tréville (1993).

Recognition of cognates with English and whether or not they help students analyze French words will also be assessed in this study along with vocabulary knowledge and the different aspects of derivational morphology mentioned above.

For the purpose of this study, Holmes and Ramos’ (1993) non-restrictive definition of cognates will be used: “Items of vocabulary in two languages which have the same roots and can be recognized as such. The two principal properties of cognates lie in their orthographic and semantic similarity in the languages compared” (p.88).

Recognition of cognates does not seem to be a natural reading strategy among L2 learners according to a number of studies. For example, Hammer (1978), by exposing intermediate level grade 10 students in Alberta to a series of seven lessons designed to systematically teach them similarities between French and English, found that such similarities are not necessarily recognized by students. Lightbown and Libben (1984), in research done with grade 11 ESL students in Montreal, also came to the conclusion that “one cannot assume the existence of cognates between languages will ensure that L2 learners will, without instruction, use or even recognize all the potential relationships between two languages” (p. 407). However, Holmes and Ramos (1993) concluded from their study with false beginner Brazilian adults learning English that cognate
recognition is a natural strategy, although they also found that these students were reckless guessers (assuming a meaning for a cognate and not bothering to check if it made sense or not in the context). It is possible that adults are better at recognizing cognates. On the other hand, Hammer (1978) concluded from her study that an approach based on cognates was most beneficial for students having a higher level of cognitive abilities (adolescents and adults). The same finding is reported in a study by Browne (1982) with adult elementary French classes at Harvard University.

1.4 Rationale for Examining L2 Students’ Knowledge of Derivational Morphology

Trying to determine the extent of L1 students’ knowledge of derivational morphology has been the focus of a great number of studies, many of which have confirmed the hypothesis that there is a strong association between reading skills and knowledge of derivational morphology. Carlisle (1995), for example, concluded from her study with kindergarten through grade 2 children in the United States that there is a relationship between morphological awareness and reading achievement in the early school years. Leong (1989), Tyler and Nagy (1990) and Fowler and Liberman (1995) confirmed that the same is true for older students (in elementary and high schools). Writing abilities of students may also be affected by their morphological knowledge. Rubin (1988) demonstrated in her study of kindergarten and first grade children that they “vary considerably in their implicit and explicit knowledge of morphology and that this variability may affect their early attempts to represent base and inflectional morphemes in writing” (p. 353). Rubin concluded “that it is crucial that we assess the morphological knowledge of young children
so that we may identify those who are likely to have difficulty with written expression and help them develop the sensitivity to morphemic structure that they need to become proficient written language users” (p. 353). The results of these studies show the merits of finding out where students of different ages and at different levels are in their development of morphological awareness so that teachers may know how to help them best. One can hypothesize that if there are merits in finding that type of information for L1 learners, there are merits in finding it for L2 learners as well. Although we may know at which age or grade level a particular morphological ability is normally developed in a student’s first language, we do not know at what age or grade level the same ability is developed in second language learners.

1.5 Testing Knowledge of Derivational Morphology

The following literature review will look at different studies that assessed students' knowledge of derivational morphology and the tasks they used to do so. These tasks were the ones that were considered to construct the French Vocabulary Skills Test. Selection of the tasks to be included in the test was then made in the light of the purposes of the present study and according to their ease of administration and suitability for the population to be tested.

Numerous tasks have been developed by different authors to test different aspects of morphological knowledge. There are three main types of tasks: contextualized tasks, decontextualized tasks, and tasks using reaction time.

Contextualized tasks have the advantage of putting the words in a somewhat natural setting. Since language is not found in real life as isolated words, many authors argue that in order
to test vocabulary knowledge, one has to put the words to be tested in a context. However, the context, for reasons of convenience and feasibility, is often limited to one sentence per word to be tested. One could argue that as a language is not made of isolated, disconnected words, it is not made of isolated, disconnected sentences either. However, one cannot dispute the fact that context helps learners decipher the meaning of words and that this is a strategy used by both L1 and L2 speakers. Accordingly, test takers should have the opportunity to use context as a natural strategy to access meaning. Unfortunately, using context in testing knowledge of words has the major disadvantage of creating the problem of not knowing for sure if the test taker guessed the meaning of the word from the context, or knew it at the outset. In testing students’ knowledge of how different affixes contribute to the meanings of words, using contextualized tasks would add an element that would be difficult to control for. It would be impossible to know if a student was able to analyse the components of a word (stem and affixes) to get to its meaning (what this study is aiming to find out) or if he/she guessed the meaning of the whole word based on the context alone.

The decision in this study to use decontextualized tasks (except in the obvious case of testing syntactic knowledge of derivational morphology) is based on this drawback of using context. Context, as found by Wysocki and Jenkins (1987), proved to be a major help for grades 4, 6 and 8 students to derive the meaning of unfamiliar words in L1. Also, context obviously makes a test longer and more taxing for students with limited exposure to a second language. Decontextualized tasks to test knowledge of affixes have been used by Derwing (1976), Derwing and Baker (1979), Rubin (1988), Koda, Takahashi and Fender (in press), among others. Hancin-Bhatt and Nagy (1994) and Tréville (1996) also used decontextualized tasks to test students’
knowledge of corresponding rules for affixes in two languages. These decontextualized tasks and a number of contextualized tasks that can be modified to be used without a context are reviewed below under the different aspects of morphological knowledge (sections 1.5.1 to 1.5.3). These tasks were chosen because they showed some potential for testing word analysis skills in the present study.

Finally, tasks using reaction time have been used to test knowledge of derivational morphology in a study by Feldman, Frost, and Pnini (1995). In one of their experiments, participants segmented and shifted a sequence of letters from a source word and then named the product aloud as fast as possible. For example, participants saw the morphologically simple source word *garden* on the computer screen, then the *-en* part of the word was highlighted and the target word *bright* appeared below. Participants were asked to say the new word aloud. The response time was measured. The same procedure was applied to morphologically complex words such as *harden*. This experiment and other similar ones were designed to find out if morphological affixes (e.g., the *en* in *harden*) were shifted faster than their nonmorphologically but phonologically matched controls (e.g., the *en* in *garden*).

Experiments using reaction time are fascinating, but are not adequate to test specific knowledge of the meaning of affixes. They confirm, however, that morphologically related words are more easily accessed.
1.5.1 Testing Relational Knowledge and the Meaning of Common Suffixes and Prefixes

As mentioned earlier, the knowledge of the meaning of common suffixes and prefixes is often addressed as relational knowledge, so both these aspects of knowledge of derivational morphology will be addressed here together, although they will be tested separately in the present study.

Decontextualized tasks have been used by a number of researchers. Derwing (1976) conducted a test to assess the recognition of related words which consisted of asking students (children aged 8-12, adolescents aged 13-17, and adults in Alberta) why a given word had the name it did. For example, why a teacher was so named. However, the participants did not respond as anticipated. They tended to give definitional responses (e.g., “She is called a teacher because she imparts information”) rather than etymological responses (e.g., “She is called a teacher because she teaches”). In a second attempt to test the recognition of related words, which was more successful, Derwing and Baker (1979) developed the “come from” test. For each pair of words tested, participants (elementary, junior high, senior high and university English L1 students) were asked the following two questions: a. “Do you think that the word dirty comes from the word dirt,” and b. “Have you ever thought about this before?” A scale of answers was provided which ranged from ‘No doubt’ to ‘No way’ for the first question, and ‘Yes’, ‘Not sure’, or ‘No’ for the second one. This task was among the tasks considered for the French Vocabulary Skills Test, but in the end a production task seemed to offer more potential for assessing students’ ability to extract the roots of derived words.
Jones (1991) presented participants (6 year-old L1 speakers) with the task of taking apart complex words and commenting about the meaning of the base portion. Participants were asked to omit a morpheme, a syllable or a segment from a word and then were asked what the base word meant. The examiner read a sentence containing the test word and asked the participant to pronounce the test word. Then, the examiner asked the participant to say it again, but this time leaving off the specified morpheme, syllable or segment. Finally, the examiner asked: “What does that mean?” or “What does it make you think of?, or “Can you show me what it means?” This task needed to be done orally so as to make sure through proper questioning that the relevant responses were elicited from students. Oral tasks were deemed too time consuming for the present study.

Rubin (1988) used a morpheme analysis test to assess kindergarten and first grade L1 students’ ability to analyse a spoken word into its constituent morphemes. Students were asked to identify base morphemes within words. For each word, the child was asked questions such as “Is there a smaller word in kissed than means something like kissed?” If the child responded “Yes”, he or she was supposed to supply the base word. Again, this task was done orally and, accordingly, was not judged appropriate for the present study.

Koda, Takahashi and Fender (in press) used two kinds of tasks to test relational awareness with adult L2 learners of English. The first one is a recognition test involving a multiple-choice analogy task (e.g., Danger is to dangerous as delight is to __________: a. delightful; b. delightfully; c. delighting; d. delight.) The second one is a production task which involved having the participants write as many morphologically related words as they could for high-frequency English words. This latter task seemed to be easier to manage by the population to be tested in the
present study. Also, the former task, although designed to test relational knowledge, appeared to test syntactic knowledge as well.

A number of tasks testing relational knowledge have also involved asking students to give definitions of words. Freyd and Baron (1982) asked L1 grades 5 and 8 students to supply definitions for a list of morphologically simple words and for a list of derived words. They also produced a test that asked students to recall the meanings of nonsense pairs of words they were previously asked to learn. Half the pairs were related by consistent derivational rules (e.g., skaf = steal; skaffist = thief) and half were unrelated. Wysocki and Jenkins (1987) also asked participants (L1 grades 4, 6 and 8 students) to supply definitions for derived words, but the words were put in context since they were interested in investigating children’s use of contextual and morphological information to derive meanings from unfamiliar words. Tyler and Nagy (1989) suggested that the experiments conducted by these two groups of researchers may have underestimated students’ actual knowledge of morphological relationships because the task of supplying definitions is quite demanding, as compared to just recognizing the correct definitions.

Tyler and Nagy (1989) decided to conduct an experiment that consisted in testing L1 grades 4, 6 and 8 students’ relational knowledge by getting them to choose the correct definition for a target word inserted in a sentence. For each item, there were two versions: one with a low-frequency word derivative of a high-frequency word, and the other with the high frequency stem itself. An example with a derivative is: “I’m in a celebratory mood,” Mary announced. - Mary felt like: a) having a party; b) being alone; c) going to sleep; d) having a fight; e) don’t know. The other version with the high frequency stem would replace the word celebratory with celebrate (“I’m in a mood to celebrate.”) and include the same definitions. A task using choices of
definitions was chosen for testing the knowledge of the meaning of prefixes and suffixes in the present study. However, as discussed earlier, a decision was made not to use a context to present the suffixed or prefixed words.

Other studies where context played a relatively small role include Carlisle (1995) and Fowler and Liberman (1995). Carlisle used a morphological judgment task involving asking L1 kindergarten through second grade students if a sentence made sense or was silly (e.g., *A person who makes dolls is a dollar.*) and a morphological production task involving completing a sentence with the correct morphologically complex form of a base word (e.g., *Farm. My uncle is a farmer.*) These types of tasks were rejected in the present study in favour of tasks that had the potential of providing more information regarding students' relational knowledge of derivational morphology.

1.5.2 Testing Syntactic Knowledge

The knowledge of syntactic properties of suffixes was specifically tested by Tyler and Nagy (1989 and 1990) and Nagy, Diakidoy and Anderson (1993) in contextualized tasks. One of the tasks in Tyler and Nagy (1989) involved L1 grades 4, 6, and 8 students choosing the best word (among four with different suffixes reflecting syntactic categories) to fit into a blank in a sentence. (Example: You can _____ the effect by turning off the lights. Choices: intensify, intensification, intensity, intensive.) The words included real and nonce words (real suffixes added to nonsense stems). Nagy, Diakidoy and Anderson (1993) later found that the task may have overestimated students' knowledge of suffixes with real words and underestimated it with nonce
words. Knowledge of suffixes was not needed to analyze real suffixed words because students may have known the words as unanalyzed wholes. On the other hand, the presence of nonsense stems may have made it difficult for some to judge the relative acceptability of the choices. They therefore created a task which consisted of multiple choice items each containing four sentences with the same content word (which consisted of a novel combination of a familiar stem and a suffix) positioned in a different place each time. For example, for the word *powderize*, the four sentences were: a) *First they had to find a powderize rock*; b) *First they had to powderize find the rock*; c) *First they had to find a powderize for the rock*; d) *First they had to find a way to powderize the rock*. The sets of sentences was preceded by a question of the form “Which sentence uses the word X correctly? Another task, this time in Tyler and Nagy (1990), which tested both relational and syntactic knowledge, consisted in having L1 grades 10 and 11 students choose the best paraphrase for a sentence containing a derived word. The incorrect paraphrases contained either a syntactic error, a lexical error, or both. Koda, Takahashi, and Fender (in press) also used errors in sentences to test syntactic knowledge. They asked students to correct an underlined, syntactically inappropriate word in a sentence.

The syntactic knowledge task of the French Vocabulary Skills Test used in this study is based on Tyler and Nagy’s (1989) fill-in the blanks task, except that it only uses real words, and on Koda, Takahashi and Fender’s task, except that choices of answers including appropriate and inappropriate words were given. The other tasks reviewed above involved too much reading for grade 10 core French students’ abilities and for the time available for testing.
1.5.3 Testing Knowledge of Correspondence Rules Between Suffixes in English and French

Hancin-Bhatt and Nagy (1994) and Tréville (1996) also used decontextualized tasks and tasks in short contexts, but in their studies they were concerned with cognate recognition. Hancin-Bhatt and Nagy (op. cit.) used: (1) a translation task (students were asked to give Spanish translation for underlined English words - cognates and non-cognates - in a short context and then were asked if they knew the words or not, and (2) a matching task (students were given English words and asked to choose the translation of each among four derivationally related Spanish words). The participants were Latino bilingual students in grade 4, 6, and 8. Tréville used three different types of tasks with L2 learners of French: (1) giving English counterparts (including correct grammatical category) to French cognates; (2) generating French cognates for English words participants may not know using their knowledge of correspondence rules; and (3) inserting cognates in their correct forms in appropriate contexts.

The French cognate generating task by Tréville was chosen to be included in the French Vocabulary Skills Test because it was judged to have the greatest potential for assessing correspondence rules. In the other tasks, previous knowledge of the words tested seemed to be a factor too difficult to control for.

1.6 Results from Applicable Studies on Derivational Morphology

The majority of the existing studies on derivational morphology have been conducted with L1 speakers (mainly English speakers). A limited number have been conducted with L2 learners,
and even fewer with L2 secondary school students. None to my knowledge has been conducted with secondary core French students in Canada or elsewhere. Accordingly, the results and conclusions gathered below are only of interest to the extent that they have the potential to raise interesting questions as to whether secondary level core French students would show the same kind of knowledge (or lack thereof). Comparison between these results and the results of the present study will appear in Chapter 5. The conclusions reported here will also be referred to in Chapter 6.

Please note that since most authors do not differentiate between the relational and syntactic aspects of derivational morphology, often using the general term ‘morphological knowledge’, the following literature review will not address them separately. It will first present results from studies with L1 English speakers on the relational and syntactic aspects of derivational morphology, and then results of studies with L2 learners, which have almost exclusively dealt with word analysis skills associated with similarities and differences between L1 and L2.

1.6.1 Interesting Results from English L1 Studies

First of all, some interesting results involve the comparison between higher achieving students and average ones as far as their word analysis skills are concerned. Freyd and Baron (1982) found that higher achieving students use derivational rules, but average students do not. This was found by using an academically superior grade 5 group and an average grade 8 group to conduct some experiments. The grade 5 group showed more analysis skills than the grade 8
The grade 5 group was better at defining derived words.

Other studies involved looking at the progression of derivational morphology skills through grade levels. Tyler and Nagy (1989) obtained the following interesting results from their study conducted with grade 4, 6 and 8 students: the order of acquisition of the different aspects of derivational morphology is first relational, followed by syntactic, and lastly distributional; 4th grade can already recognize the base morphemes in unfamiliar derivatives in their L1 and there is no substantial increase in this ability between grades 4 and 8; older children are more accurate in selecting the words whose syntactic properties best fit the sentence; 4th grade appears to be the point at which students are able to apply their knowledge of syntactic properties of suffixes to derivatives formed from unfamiliar stems. This knowledge increases from grade 4 to grade 6.

Rubin (1988) carried out some experiments with kindergarten and first grade children and found that at each grade level their implicit and explicit knowledge of morphology varied considerably. Rubin stressed that it is important to assess the knowledge of derivational morphology of kindergarten and first grade children because students who score low are more likely to have difficulties with written expression later on.

Other researchers have found a strong relationship between morphological knowledge and reading ability. Tyler and Nagy (1990), using older L1 speakers (10th and 11th graders) and having them write a multiple-choice test in which they had to choose the best paraphrase for a sentence containing a target derived word, found that there were fewer errors for suffixed words than non-suffixed words; there were more syntactic errors for suffixed words than for non-suffixed words; and, although all ability levels made more syntactic errors with suffixed words, this effect was strongest for the least able readers, suggesting that knowledge of derivational morphology is a
contributing factor to differences between skilled and less skilled readers.

Carlisle (1995) also found a relationship between morphological awareness and reading achievement in the early school years (kindergarten through grade 2). Fowler and Liberman (1995) found the same relationship for older students (7.5 to 9.5 years of age). They also found that children were better able to extract the base form from the derived form than to generate the derived form from the base. Interestingly, they found that the base generation task was more strongly related to difficulty in reading, although they warn that further research should be done before reaching any conclusions on this point.

Another study, this time by Nagy, Diakidoy and Anderson (1993) found that even in high school some students (grade 10) showed little knowledge of the meanings of suffixes in their L1. On average, however, “significant development in students’ knowledge of suffixes was found to occur between fourth grade and high school, with most of the growth appearing to occur between fourth and seventh grades. Even in high school, however, most students did not do as well on derivative items as on stem items, indicating that knowledge of even common English suffixes was not complete” (p. 168).

1.6.2 Interesting Results from L2 Studies

Some studies involving L2 learners are slowly starting to emerge. Interesting findings have come from a study with adult learners of English (Korean whose language has a similar morphological system to English, and Chinese whose language has a dissimilar morphological system to English). Koda, Takahashi and Fender (in press) found that relational awareness as well
as syntactic awareness is unaffected by variations in the learners' L1 morphological processing experience. The authors also conclude that not all aspects of morphological awareness develop at the same rate and in the same manner among L2 learners with different L1s.

Another study which dealt among other things with relational awareness, more precisely knowledge of verbal suffixes, is the one by Schmitt and Meara (1997) with secondary and postsecondary Japanese students in Japan who had studied English as a second language for 5 to 6 years. The results of the study show that the students had a rather weak awareness of derivative suffixes and their use, and that they even lacked 'convincing mastery' of inflectional suffixes. They also discovered that total vocabulary size was correlated with the students' knowledge of suffixes.

Further research with L2 learners has involved studying morphological knowledge related to cognates. Nagy, Garcia, Durgunoglu and Hancin-Bhatt (1993) in a study with grades 4, 5 and 6 Spanish-English bilingual, biliterate students in the United States discovered that students' understanding of texts and vocabulary knowledge was related to their ability to recognize cognate relationships. The tests involved self-report type Yes/No vocabulary tests in both English and Spanish (students were asked to report if they knew the meaning of each word), multiple-choice target-word comprehension tests using four expository texts containing English words with Spanish cognates, and a cognate-circling task using the four expository texts. The authors however warned that even though their results "suggest that knowledge of cognates can contribute to Hispanic bilingual students' reading in English, they also indicate that these students' knowledge of cognates is hardly at a ceiling. For example, in the cognate-circling task, students circled less than half of the cognates they had reported knowing in both Spanish and English on the yes/no vocabulary tests. This suggests that students' ability to recognize Spanish-English
cognates could be enhanced substantially" (p.253). Exploratory analysis of their data also showed that the degree of orthographic overlap played an important role in cognate recognition, but that systematic relationships between English and Spanish suffixes did not. Most students, for example, failed to see the rather productive correspondence rules between the English suffix -ity and the Spanish suffix -idad. Indeed, few students recognized reality as a cognate of realidad.

Another study, this time by Hancin-Bhatt and Nagy (1994), investigated the ability of bilingual (English/Spanish) American students in grades 4, 6 and 8 to recognize a cognate stem within a suffixed English word (e.g., to see quick in quickly), and their knowledge of systematic relationships between Spanish and English suffixes (e.g., -ty in English and -dad in Spanish). The authors were interested to see if students' ability to recognize cognates increased with age. The experimental tasks consisted of (1) a translation task: students were given English words in a brief context and asked to provide the best Spanish translation; and (2) a matching task: students were given low-frequency English cognates and asked in each case to choose the translation of the word among four derivationally related Spanish words. Some interesting results were:

- Older students were able to translate more words correctly.
- Overall, students translated cognates better than non-cognates.
- Stems were more likely to be correctly translated than suffixed words. Students also recognized cognate stems in suffixed words better than noncognate stems in suffixed words.
- Grade level was significantly related to the ability to translate cognates.
Scores for cognates increased more rapidly across grades than scores for non-cognates.

Even if students’ knowledge of English suffixes and their relationship to Spanish suffixes increased dramatically from grade 4 to 8, it was very low in grade 4 and was still relatively low in grade 8.

The authors concluded that their results "are consistent with the belief that these students can capitalize on their first language knowledge when reading English, and, in particular, that instruction on relationships between Spanish and English derivational morphology may be helpful, especially at higher grade levels" (p. 306).

Tréville (1996) is another researcher who did some work focusing on cognates and suffixes. Her study was with adult English-speaking beginning learners of French. According to her, "cognates, or words common to both languages, represent a point of departure for developing knowledge about the morphology and semantics of words and their syntactic and discursive functions, as well as a practical command of reading vocabulary" (p. 173). The experiments are interesting because they involved submitting participants in the experimental groups to a set of lessons on global reading and identification of cognates, decoding of the meanings of texts, morphological comparison of English and French cognates, and grammatical classification and semantic exploration of French cognates and their syntagmatic behaviour, while the participants in the control groups continued their regular program. Participants in the experimental groups were taught with the help of seven lessons. The first lesson consisted in an introduction to cognates, while the six subsequent lessons each started with a text in French and
included the following steps: 1) global reading and identification of cognates; 2) decoding the meaning of the test; 3) morphological comparison of English and French cognates and grammatical classification; and 4) semantic exploration of French cognates and their syntagmatic behaviour. Participants in both the experimental and control groups then wrote a test consisting of nine subtests assessing numerous morphological skills related to interlexical correspondence rules, grammatical inflections and categories, French derivation rules, recognition of cognates in reading texts, and production of cognates. The results reported by Tréville (1993) indicated that there had been gains in the experimental group from pre-test to post-test for the following abilities: recognition of cognates and French grammatical inflections out of context; transfer and application of interlexical correspondence rules; identification of grammatical categories of French words out of context; derivation based on French words; and inserting cognates in the correct form in appropriate contexts. Abilities for which there were no gains include: identification of the grammatical categories of English words out of context and in short contexts, identification of grammatical categories of French words in short contexts, and comprehension of a French text of 180 words, including a large number of cognates. The author's conclusions were that:

Cognates therefore appear to provide at least two types of support conducive to the development of strategies that favour learning. As linguistic entities representing lexical and sublexical elements, cognates lend themselves to semantic and morphological analysis and permit the development of decoding strategies to analyse the internal context of words. As operational entities, in the form of prototypes of grammatical classes and semantic and syntactic relationships (both systematic and contextual), cognates also permit strategies of comprehension and learning to become firmly rooted. In several respects,
therefore, it appears that a focus on cognates may have contributed to the lexical
competence of the experimental sample studied. However, this lexical competence was
found principally at the level of the word and in the form of metalinguistic knowledge. The
results in reading comprehension (which did not differentiate between the experimental
and comparison groups) appear to indicate that making use of cognates to infer the
meaning of a text is a strategy that was developed independently of the instructional
treatment. (p. 188)

Early studies involving cognate recognition (e.g., Hammer, 1978; Browne, 1982; and
Lightbown & Libben, 1984) all came to the conclusion that cognate recognition is not a natural
strategy, even with high school and college and university students. Harley, Hart and Lapkin
(1986) hypothesized in their study with native English-speaking grade 6 students enrolled in an
early French immersion program in Canadian schools that the knowledge of French of these
students would help them understand cognate English words. An English test made up of
multiple-choice vocabulary items including target words that have a cognate common in French
was used. Their hypothesis was not supported by the results of the vocabulary test. This is further
evidence that cognate recognition is not a natural strategy. One of the few studies that contradicts
this view is Holmes and Ramos (1993) which was done with false beginner Brazilian adults
learning English. They however found that these learners were reckless guessers (i.e., they picked
up a meaning for a cognate and did not bother checking if it made sense or not in the context).
They concluded that learners should be taught to be intelligent guessers.
Another study worth mentioning is one by Bébout (1978) with junior-high (13-15 years old) Spanish-speaking students in Mexico who had been learning English since grade 5. She found, through presenting them with a list of English words that are cognate with Spanish words, that they succeeded better at identifying cognates whose only difference occurred at the end of the word than at identifying cognates whose difference occurred elsewhere (or both at the end and elsewhere). She advised that “anyone who generates materials which deliberately make use of cognates should be aware that even all ‘true’ cognates are not equal in their ability to elicit L1 equivalents from native language learners” (p. 5). Browne (1982) indicated many other factors that may influence visual cognate recognition: degree of spelling correspondence, location of spelling differences, differences in number of syllables, word length, the ratio of spelling correspondence to word length, word frequency in L1. Hammer (1978) and Browne (1982) also mentioned cognitive development, age, vocabulary development in students’ first language, and experience with cognates as factors influencing cognate recognition.

1.7 Conclusion

The selection of studies and theory reviewed in this chapter have shown how different aspects of derivational morphology have been tested by different researchers, and has also presented results of studies that relate directly or indirectly to the questions asked in the present study. As mentioned earlier, assessing derivational morphology skills in L2 high school learners of French has not previously been attempted by other researchers and, consequently, it will be impossible to make direct comparisons with their studies since most of them dealt with L1
speakers or with L2 learners of other languages than French and of other grade and maturity levels. However, it will be interesting to see if certain trends in these studies such as low knowledge of the meanings of suffixes, the order of acquisition of the different aspects of derivational morphology, and the low recognition level of cognates are also perceptible in the results of the present study. Their conclusions in relation to perceived implications for the classroom will also be of interest in outlining pedagogical implications in the last chapter of this thesis.
Chapter 2
Design of the Study

2.1 Introduction

The present research has been done concurrently with a study designed by Dr. Birgit Harley to investigate the development across grade levels of classroom learners' word analysis skills in a second language and to compare these skills in students whose intensive exposure to the language began at different ages. (The results of the full study are forthcoming.) The participants in the broader research included early French immersion students in grades 6, 8 and 10 and late French immersion students in grades 8 and 10. The present study focuses more specifically on grade 10 core French students and aims to assess their knowledge of different aspects of derivational morphology, in particular their knowledge of how suffixes and prefixes contribute to the meanings of derived words. It is also designed to determine if cognates with English play a substantial role in helping students analyze derived words.

I designed the French Vocabulary Recognition Test and the French Vocabulary Skills Test used in this study with the participants of both studies in mind. Dr. Harley offered her expertise and assistance in the creation of both tests.

This chapter will first present the research questions, then it will present the instruments used including the two tests in their pilot and final versions and the procedures followed to administer and score the tests.
2.2 Research Questions

The following main questions and subquestions formed the focus of this study:

1) What is the extent of grade 10 core French students’ French word analysis skills as far as the following aspects of derivational morphology are concerned:
   a) knowledge of the meaning of common prefixes and suffixes?
      - How does students’ knowledge of the meaning of prefixes compare with their knowledge of the meaning of suffixes?
   b) relational knowledge?
      - How does students’ ability to find the roots of familiar derived words compare with their ability to recall other derivationally related words?
   c) syntactic knowledge?
      - Does syntactic knowledge vary depending on the syntactic class (noun, adjective, verb, adverb) of words used?
   d) knowledge of correspondence rules between suffixes in English and in French?
      - Does that knowledge vary depending on the syntactic class of words used?

2) Are cognates with English easier to recognize and analyze than non-cognates?
3) Is there a relationship between students' vocabulary knowledge in French and their word analysis skills?

2.3 Participants in the Study

The participants in the present study were forty grade 10 core French students between 15 and 16 years of age in two different core French classes. These classes were in the same school in a school board located in Southern Ontario. The large majority of them had taken French for approximately 40 minutes a day (or 120 hours a year) since grade 4, i.e. for seven years (including the present school year). Excluded from the initial pool of students were those (three in total) who had previously spent one or more years in a French immersion program or in a French school. Five students had a slightly different background in core French: 4, 5, 6, 8 and 10 years of core French respectively. These students were included in the study. Almost half the students who were part of the core French study had exposure to a language other than French or English at home: 3 students spoke that language all the time, 8 students spoke it half the time and 7 students spoke it occasionally. None of them spoke French at home on a regular basis.

Both tests used in this study were piloted in another grade 10 class of 24 students from a different school in the same school board, and in a grade 6 early immersion class (for the purposes of the Harley study).
2.4 Instruments

In order to assess general vocabulary knowledge and word analysis skills of the grade 10 core French students, two tests were developed: a French Vocabulary Recognition Test and a French Vocabulary Skills Test. Both tests were first piloted. As a result of the piloting, some changes to specific items on the French Vocabulary Skills Test were made, but the French Vocabulary Recognition Test remained the same.

2.4.1 The French Vocabulary Recognition Test - Pilot Version and Final Version

The French Vocabulary Recognition Test (Appendix A) was used to assess students’ general vocabulary knowledge in order to be able to determine the relationship of that kind of knowledge to their word analysis skills. The test consisted of 100 words: 65 real words and 35 pseudo words (i.e., words that follow the rules of word formation of the French language, but do not exist in that language). Students were asked to cross out any words they did not know well enough to say what they meant. The test was based on a test first designed in English by Anderson and Freebody (1983) and later adapted for L2 students by Meara (1994). The specific version used for this study was derived from a version used in research with immersion and core French students at the secondary level (Harley, 1998). The revisions to the test consisted first in some simplification to make it more accessible to core French students. Five words were replaced by words used more frequently in the core French context at the grade 10 level and five others
were replaced by cognates with English, so that the proportion of cognates would be representative of that (about 25%) commonly found in written French (Meara, 1988). As well, gender identification in the form of articles (un, une, le, la) was added to the nouns. This modification was put in place following concerns by school board reviewers that students should always be exposed to French nouns with a gender identifier. A final set of modifications consisted in modifying a few words so that they would follow more closely word formation rules in French. (This was necessary in order to identify the pseudo-nouns, which needed as well to be preceded by an article.)

This self-report type of test was primarily chosen because of its availability and its ease and speed of administration. It only takes five minutes to administer and it is virtually stress-free for the students. This was an important consideration because the main test of the study (which assesses word recognition skills) was to take 20 to 30 minutes. The administration of both tests needed to be done in a 40-minute period. Other types of tests such as the widely-used multiple-choice test in which students choose the appropriate word from a range of possibilities to fill in a blank in a sentence or choose from a choice of definitions the one that matches most closely a chosen word are time-consuming and tedious to construct. Meara and Buxton (1987) had in any case shown in a comparison between multiple-choice and self-report Yes/No vocabulary tests that both tests correlated satisfactorily and measured largely the same sort of thing.
The scoring of the French Vocabulary Recognition Test was done according to a formula developed by Anderson and Freebody (1983) to correct for guessing (i.e. when students indicate that they know a nonce word). The formula is

\[
\frac{P(h) - P(\text{fa})}{P(k)} = \frac{1 - P(\text{fa})}{1 - P(\text{fa})}
\]

where \( P(k) \) is the student's score, or proportion of truly known words, \( P(h) \) is the proportion of real words the student indicated as known (or hits) and \( P(\text{fa}) \) is the proportion of pseudo-words the student indicated as known (or false alarms). A perfect score would be 1. A negative score would indicate a disproportionate amount of false alarms and would cast doubt on the honesty of the student.

The test has some obvious advantages, but as with any measure of vocabulary knowledge, it also has its limitations. One of these limitations, reported by Read (1997), is that low-level students tend to respond unpredictably to the nonce words. This phenomenon was not particularly evident in the results of the piloting and even less so in the main study. Guessing was minimal (on average 2 words out of 35 per student in the main study). One reason may have been that in the present study students were warned in the instructions that the test included some words that did not exist in the French language. This was not only added to discourage guessing, but also so that relatively low-level learners such as the grade 10 core French would not feel too discouraged or frustrated by a lack of vocabulary knowledge.
2.4.2 The French Vocabulary Skills Test - Pilot Version

The French Vocabulary Skills Test was designed expressly for this study and the Harley study referred to earlier. The types of items contained in each of its four parts are based or have been influenced by test items previously designed by different authors to test the specific aspects of derivational morphology investigated in the present study. These aspects and how they have been tested in different studies were reviewed in Chapter 1 of this thesis.

The test was designed so that it would be simple enough, yet effective in assessing the French word analysis skills of students with a wide range of proficiency in French as a second language (grade 6 early immersion, grades 8 and 10 early and late immersion, and grade 10 core French) and of different maturity levels.

So as to enable more students to be piloted and at the same time minimize the effect of fatigue on students of a lengthy pilot test, two pilot versions of the test (Test A and Test B) were produced as parallel forms (see Appendix B.) The two forms of the test used in the pilot shared a common anchor test of core items in each of its four parts. The remainder of each part contained test items unique to each form of the test. These parallel forms of the test made it possible to try out a substantial number of items from which to choose the most reliable ones for the final test. Each of the two forms of the test was of equal length, and of the same length as the final test. When administered in the pilot, the two versions of the test were assigned randomly to students, such that half the students in the class completed Test A and the other half completed Test B.

The test was also designed with drawings and computer art so that it would not look too
intimidating to students and add appeal. Instructions were written in English (the students' first or main language) to avoid any confusion.

The test is in four parts. Each part assesses one of the following aspects of derivational morphology:

- **Part I:** knowledge of the meaning of different common suffixes and prefixes
- **Part II:** relational knowledge
- **Part III:** syntactic knowledge
- **Part IV:** knowledge of correspondence rules between cognate suffixes in English and French.

**Part I: Testing knowledge of the meaning of different common suffixes and prefixes**

Each item in Part I of the test asks students to identify the three derived words (among four) that match each of three short definitions (see Appendix B). There are six items, for a total of 18 definitions. The stem of the three words is in each case related to a high frequency word that students are likely to know. These high frequency words are: *animal, couleur, bête, dormir, chauffer, habiter*. (Words of high frequency were chosen using Fortier, 1993, and Savard, 1970, as references.) However, the derived words (prefixed or suffixed words) chosen for the test are very low frequency words that students are not likely to know. The reason for choosing such words was to force students to use their knowledge of the meanings of the different prefixes and suffixes to choose the appropriate definitions to match the derived words. Students were warned
that they were likely not to know these words and that they were to simply indicate what they thought their meanings were.

This part of the test is based on work done by Wysocki and Jenkins (1987) and Tyler and Nagy (1989) who used test items that included definitions to test such derivational knowledge. However, to make the task simpler, students were not asked to produce definitions, but just to choose the appropriate ones. As well, in order to make sure that students did not guess their answers from the context, the words were not embedded in sentences.

The French suffixes and prefixes were chosen from among those that students at this level were likely to know. The decision on whether or not they were likely to know the chosen prefixes and suffixes was based on words they are assumed to know that feature these prefixes or suffixes. Although this method is not very scientific, it seems to work better than choosing suffixes and prefixes according to their frequency in the French language (such a classification exists in Dubois, 1962) because the frequency of prefixes and suffixes is determined according to the total number of words of which they are part. No classification exists regarding their frequency among words high school core French students are likely to know. As well, part of the difficulty in designing this part of the test was to choose word families extensive enough to yield four derivatives that students are not likely to know, based in each case on a stem or root they are likely to know.

The suffixes covered in this part of the two forms of the test are:

for verbs: -iser, -ir, -er, -ifier

for nouns: -ité, -ier, -erie, -oir, -eur, -age, -ation, -ment, -euse, -ant, -ise, -iste, -ilité
for adjectives: -if, -able, -al, -ore, -ant

for adverbs: -ment

The prefixes covered are: en-, dé-, re-, in-, co- and some of their allomorphs. Each form of the pilot test contains a comparable number of words in each word class.

Part II: Testing relational knowledge

The 5 items in Part II of the test were designed after an experiment done by Koda, Takahashi, and Fender (in press) in which they asked students to write as many morphologically related words as they could for each high frequency English word. However, it was decided in the present study to use a derivative as the stimulus word in each case to assess, on the one hand, whether students can find the root in a derivative (which seems to be part of relational knowledge as defined by Tyler & Nagy, 1989) and, on the other hand, if they can come up with more derivatives based on that root. Words in this part of the test are those that students at this level should know and that have a rather large number of derivatives so that students should be able to think of some additional ones.

Drawings of family trees are used in this part of the test to make it visually more attractive and clearer to students. A cartoon at the beginning of the test is also designed to help them see what is meant by related words or words of the same family, i.e. words that share some resemblance and some meaning.

One concern with this part of the test was that students would provide inflectionally related forms such as feminine or plural forms of nouns and adjectives, or conjugated forms of
verbs. Since this study is only concerned with derivational morphology, and not with inflectional morphology, it was necessary to make sure that students were aware that they were not to produce such words. They were given concrete examples on the board at the time of testing so that they could understand what types of words they should produce and which they should not.

Each form of the pilot test includes five family trees to be filled in (three anchor items and two unique items per form). Students were asked to try to write three words per family tree. (They could add more if they wanted.) The words in the two forms of the test are as follows:

2 adjectives: *imaginaire, grandiose*

2 verbs: *encourager, recoller*

2 nouns: *dentifrice, calculatrice*

1 adverb: *longuement*

Each form of the pilot test contains a comparable number of words in each word class.

Part III: Testing syntactic knowledge

This part of the test was also inspired by Koda, Takahashi, and Fender (in press) who asked students to correct an underlined, syntactically inappropriate word in a sentence. However, to make the task easier, in this test, students chose a syntactically appropriate word from a choice of four derivatives to insert in a sentence. Tyler and Nagy (1989) did something similar, but instead of using real words only, they also used nonce words. However, since L2 teachers have objected in the past to students seeing nonce words, the present study opted for real derivatives that students were not likely to know. (Note that to prevent them being discouraged, students
were warned frequently through the test that they would not know many of the words they encountered. They were asked to use their instincts to choose the words they thought fitted best.

This part of the pilot test includes 12 items in each form (six anchor items and six unique items). The two forms of the test include:

- **6 nouns** with the following suffixes: -tion, -té, -iste, -erie, -esse, -ade (exaspération, opiniâtreté, anatomiste, cristallerie, allégresse, rigolade)
- **6 adjectives** with the following suffixes: -eux, -ante, -able, -oire, -ique, -if (ignominieux, croupissante, datable, dilatoire, diabolique, fautif)
- **3 verbs** (dogmatise, tarir, épandre) representing the following infinitive endings: -iser, -ir, -re
- **3 adverbs** with the following suffixes: -ment, -amment and -iquement (impétueusement, obligeamment, allégoriquement)

Each form of the pilot test contains an approximately equivalent number of words in each word class.

**Part IV: Testing knowledge of correspondence rules between suffixes in English and French**

This part includes rare English words (unlikely to be known by students) that have cognates in French. The stems of the words are mainly the same in both languages (except for accents when applicable); only the suffixes differ. Students are asked to make up French translations for the English words. It was assumed that students would use their knowledge of
how these suffixes are normally translated in French (or knowledge of correspondence rules) to create their translations. This part is designed after work done by Tréville (1996).

There are twelve items in each form of the test. The suffixes were chosen from the most productive rules established by LeBlanc and Séguin (1995). The words in the two forms of the test are as follows:

6 nouns: -ity = -ité; -my = -mie; -gia = -gie; -tor = -teur; -cian = -cien; -ary = -aire
(magnanimity, stereotomy, causalgia, rotator, econometrician, actuary)

6 adjectives: -ic = -ique; -ive = -if; -ical = -ique; -ous = -eux; -ar = -aire; -ial = -iel
(caleptic, recitative, radiological, gangrenous, insular, arterial)

3 verbs: -e = -er; -ate = -er; -ize = -iser (to infuse, to intercalate, to magnetize)

3 adverbs: -bly = -blement (2 of these); -ically = -iquement (indubitably, indissolubly, angelically)

Each form of the pilot test contains an approximately equivalent number of words in each word class.

2.4.3 Student/Parent Consent Form

Information regarding age, exposure to French at home, and students’ French program background was collected through a consent form that was sent home with the students who participated in the test piloting and in the actual study. (The consent form with an accompanying letter is included in Appendix C.)
2.5 Procedures

2.5.1 Test Administration

At the beginning of this research and of that of Dr. Harley (which was conducted at the same time), a large school board in Southern Ontario was contacted and a research application sent to them. After the research application had been approved, the board identified potential schools and the principals of these schools were contacted in order to identify teachers willing to participate in the study (first with the piloting of the tests, then with the actual testing for the study). Consent letters and consent forms were then distributed and dates for the testing agreed upon.

The tests in both the pilot and the main study were administered by me. First, all consent forms were collected. Students who had not returned their consent form were instructed to either go to the library, or to write the tests anyhow. The decision was left to the teacher. It was made clear however that the results of the tests from these students could not be used if the consent forms were not returned at a later date. Students whose consent forms were not returned were not considered in the analysis of the pilot or main study data.

After explaining the objectives of the testing to the students, i.e. to help gather data on how good students of their age are at guessing the meanings of words, they completed the French Vocabulary Recognition Test. Instructions were explained to them in English and an example of a pseudo-word presented on the board. They were given a maximum of five minutes to complete the test. Most students finished in two to three minutes.
The French Vocabulary Skills Test was then distributed to them. They were instructed to wait until all the four parts of the test were explained to them before beginning to write. First, the general instructions on the front page of the test were read to them. Then, in order that students be in the right frame of mind to answer the questions of the test, I went over what is meant by ‘word families’ using page 2 of the test, the family tree of the verb *couper* (to cut) and its intruder the adjective *coupable* (guilty). Two more family trees were filled in on the board with the help of the students: the family trees of the words *dentiste* and *impossible*. Students were shown which words could be an intruder or *imposteur*, for example *dentelle* (lace) in the case of *dentiste*. They were also shown how not to include inflectional forms of the same word. Following this exercise, each of the four parts was explained to them expanding on the instructions and examples provided in the test. They were instructed that they could not ask for any translation of words during the test, but that they could ask for clarification of the instructions. Students took between 10 and 20 minutes to complete the test.

2.5.2 Scoring of, and Results, from the Piloting of the French Vocabulary Recognition Test

For piloting purposes, results from all 24 grade 10 core French students who wrote the test with permission were considered. All students had English or another language as their main language spoken at home. Only one student had spent some time in an immersion program.

The scoring of the test was done according to the formula explained earlier (in 2.4.1). No problem was found with the French Vocabulary Recognition Test as a result of the piloting. Although the average score for the pilot class of grade 10 core French students was rather low
(0.19), this was to be expected. These students, on average, claimed to know 21 real words out of 65 and claimed to know 6 pseudo-words out of 35. Some pseudo-words seem to have misled students more than others, but none of them misled the majority of them. The most often chosen pseudo-words were *une lague*, *un écours*, *récounier* and *un lavire* (chosen as real words by 10, 9, 8 and 8 grade 10 core French students respectively). The scores of the grade 6 French immersion class that also took part in the piloting were much higher (average score: 0.45), but did not show any problem either with the instructions or the test items. The decision was made to keep the test unchanged for the main study.

2.5.3 Scoring of, and Results from, the Pilot Version of the French Vocabulary Skills Test

The parallel pilot forms (Test A and Test B) of the French Vocabulary Skills Test were analyzed considering the scores from the two pilot classes (a grade 6 early immersion and a grade 10 core French class).

The scoring of Test A and Test B was done in the following manner:

- For Part I, one point was given per correct word that matched each definition.
- For Part II, one point was given for each correct derivative added to each family tree, including the root of the word, to a maximum of 3 points. An additional point was given if one of the word supplied was a root word.

Words with spelling mistakes were accepted as long as they did not change the pronunciation of the word, or as long as the spelling mistake
occurred in the stem of the word and the suffix or prefix was correct (e.g.,
gradeur instead of grandeur)

- For Part III, one point was given per correct choice.
- For Part IV, the scoring was rather lenient. Words that were misspelled
were accepted as long as the suffixes were translated properly.

More specific scoring rules were established for the final test used in the study (see section 2.5.5
and Appendix E).

The test items were analyzed for their reliability and overall difficulty levels for both
classes taking part in the piloting (extremes to be avoided). Both tests showed good item
reliability, and few too easy or too difficult items. However, Test B, based on overall
characteristics, showed the highest reliability and fewer differences in difficulty level per item. It
was decided to choose this form of the test as the final test with some item replacements from
Test A (and a new item in Part IV). (Alphas for items that were common to both tests were for
each of the four parts respectively: .70, .46, .43, and .33. Alphas for the items unique to Test A
were: .77, .69, -.10, and .63. Alphas for the items unique to Test B were: .77, .58, .71, and .70.)

The advantage of choosing one form of the test and making a few changes to it was that one
already had a clear indication of reliability; substituting the few less reliable or extremely difficult
items allowed for incremental improvement without running the risk of damaging the reliability.

Altogether, five items from Test B were substituted by items from Test A, and one item was
substituted by a new item.
2.5.4 Final Version of the French Vocabulary Skills Test

A final version of the French Vocabulary Skills Test (Appendix D) was produced as explained above with the best and most reliable items of the two parallel forms of the test that were piloted. The format and design remained the same since the piloting did not reveal any problem with these aspects. Younger (grade 6) and older (grade 10) students responded favourably to the pilot tests, and did not seem to experience any difficulty with the instructions or what was expected from them. The same balance between word classes (adjective, noun, verb, adverb) was kept. Obviously, however, a smaller variety of prefixes and suffixes and derivatives was tested than when there were two forms of the test at the pilot stage. The final list of suffixes and derivatives is the following:

- The suffixes tested in the 6 items of Part I are:
  - for verbs: -iser, -ifier, -ir, -er
  - for nouns: -ité, -ier, -erie, -ant, -ation, -ise, -oir, -eur, -iste, -ilité
  - for adjectives: -ore, -ant, -if,
  - for adverbs: -ment

- The 5 derivatives used in Part II are:
  - 1 noun: calculatrice
  - 1 adjective: imaginaire
  - 2 verbs: encourager, recoller
  - 1 adverb: longuement
The 12 items in Part III include for the correct answers:

3 nouns with the following suffixes: -tion, -iste, -erie (exaspération, anatomiste, cristallerie)

5 adjectives with the following suffixes: -eux, -able, -if, -ante, -ique (ignominieux, datable, fautif, croupissante, diabolique)

2 verbs (tarit, épandre) with the following infinitive endings: -ir, -re

2 adverbs with the following suffixes: -ment, -amment (impétueusement, obligeamment)

The 12 items in Part IV include the following words and correspondence rules:

4 nouns: -ity = -ité, -tor = -teur, -my = -mie, -gia = -gie (magnamity, rotator, stereotomy, causalgia)

4 adjectives: -ic = -ique, -ous = -eux, -ive = -if, -ical = -ique (cataleptic, gangrenous, recitative, radiological)

2 verbs: -ize = izer, -ate = -er (to magnetize, to aspirate)

2 adverbs: -bly = -blement, -ically = -iquement (indubitably, angelically)

2.5.5 Scoring of the Final Version of the French Vocabulary Skills Test

Clearer expectations were identified for the final version of the French Vocabulary Skills Test used in the main study (see Appendix E). The only difference in the scoring procedure is found in Part IV, where a lenient and a strict scoring procedure was put in place. The lenient scoring accepts a word as correct as long as the suffix is well translated, while the strict scoring
accepts a word only if the whole word is spelled correctly. The lenient scoring is the one that was used in the analysis of the results in the present study since I was interested mainly in correspondence rules between knowledge of suffixes in English and French.

2.6 Conclusion

To summarize, the present study is analyzing word analysis skills of grade 10 core French students, especially with respect to meanings associated to prefixes and suffixes, awareness of relatedness between words, correspondence rules between suffixes in English and French, and contribution of cognates with English to students' understanding of French. The French Vocabulary Skills Test is mainly used to gather data for that analysis. The French Vocabulary Recognition Test is used to gather data on students' vocabulary knowledge so that it can be compared to their word analysis skills. This test also serves to gather some data on cognate recognition. The student/parent consent form is used to gather information on students' language and program background.
Chapter 3

Results

3.1 Introduction

This chapter will present the results of both tests used in the present study with a view to answering the research questions presented in 2.2. First, since the French Vocabulary Skills Test was designed specifically for this study and no close equivalents have been previously used in research, a short analysis of the properties of that test will be presented so as to show its degree of reliability. Then, section 3.3.1 to 3.3.4 will present results associated with the first research question, i.e. students’ word analysis skills in relation to the following aspects of derivational morphology: knowledge of the meaning of common French prefixes and suffixes, relational knowledge, syntactic knowledge and knowledge of correspondence rules between suffixes in English and in French. The second research question regarding recognition and analysis of cognates with English will be answered in 3.3.5. Finally, the extent of students’ vocabulary knowledge in French and the correlation or lack thereof of that knowledge with their word analysis skills will be presented in 3.4 so as to answer the third and last research question of the present thesis.
3.2 Properties of the French Vocabulary Skills Test

The French Vocabulary Skills Test was designed to assess the extent of the students' word analysis skills. However, as previously discussed, it was not only designed with grade 10 core French students in mind, but also for grades 6, 8 and 10 early immersion and grades 8 and 10 late immersion students. It was important that the most proficient students in French (grade 10 early immersion) did not get close to perfect scores and that the least proficient students (grade 10 core) did not fail miserably. The piloting of the test made sure that this was not going to be the case. Nonetheless, lower scores in general were to be expected for the grade 10 core French students.

An analysis of the average score for each item (Table 3.1) for grade 10 core French students shows that the test was well-balanced in terms of levels of difficulty (few very low or high extremes). As well, there were no disproportionate variances in the grade 10 core French students' scores within each part as is shown by the standard deviations and the medians in Table 3.2. A statistical analysis of the reliability of each part shows alphas of .59, .60, .04 and .70 for each of the four parts respectively. For this relatively small sample of 40 students, the alphas for Parts I, II and IV show an acceptable level of reliability. Part III shows a very low reliability, but such discrepancy is not that surprising due to the fact that the test was designed for immersion students as well. The reliability of each part (including Part III) is considerably higher for the entire population tested (286 students): alphas of .82, .75, .71 and .71 for Parts I, II, III, and IV respectively.

Considering all the statistical data analyses performed on the test scores, it could be said...
that the test, although not exclusively designed for grade 10 core French students, was still on the whole a reliable assessment for that group of students.

Table 3.1  Average Scores by Items for the Four Parts of the French Vocabulary Skills Test (N=40)

| Part I | 1a | 1b | 1c | 2a | 2b | 2c | 3a | 3b | 3c | 4a | 4b | 4c | 5a | 5b | 5c | 6a | 6b | 6c |
|--------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Max = 1 | .3 | .12 | .3 | .15 | .4 | .32 | .32 | .2 | .25 | .35 | .17 | .17 | .55 | .67 | .72 | .37 | .57 | .82 |

Part II (all words) | 1 | 2 | 3 | 4 | 5 |
| Max = 3 | .92 | 1.17 | 1.22 | .62 | 1.12 |

Part II (root only) | 1 | 2 | 3 | 4 | 5 |
| Max = 1 | .82 | .5 | .7 | .17 | .5 |

Part III | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Max = 1 | .4 | .22 | .27 | .55 | .57 | .47 | .22 | .22 | .25 | .15 | .57 | .37 |

Part IV (lenient) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Max = 1 | .35 | .35 | .45 | .25 | .27 | .1 | .32 | .35 | .15 | .05 | .3 | .35 |
Table 3.2  Average scores for the Four Parts of the French Vocabulary Skills Test (N=40)

<table>
<thead>
<tr>
<th>Part</th>
<th>Part II</th>
<th>Part III</th>
<th>Part IV (lenient scoring)</th>
<th>Total (Max=62)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Max=18)</td>
<td>(Max=20)</td>
<td>(Max=12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>6.8</td>
<td>7.8</td>
<td>4.3</td>
<td>3.3</td>
</tr>
<tr>
<td>N</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>2.8</td>
<td>2.75</td>
<td>1.63</td>
<td>1.9</td>
</tr>
<tr>
<td>Median</td>
<td>7.0</td>
<td>8.0</td>
<td>4.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

3.3 Students' Word Analysis Skills

3.3.1 Students' Knowledge of the Meaning of Common Prefixes and Suffixes

Part I of the French Vocabulary Skills Test was designed to assess whether students were able to guess the meaning of derived words from their prefixes or suffixes. Derived words were chosen so that the base morphemes would be known to the students, but their derived forms would be unknown. It was assumed that if students knew the meaning of the prefixes or suffixes, they would be able to guess the meaning of the derived words. First, we will analyse the results to assess the extent of students' skills in guessing word meanings from their suffixes and prefixes. Then, an analysis of prefixed words compared to suffixed words will be performed.
Part I of the test involved six items, each containing 3 definitions to be matched with their corresponding derived words (4 words were given as choice per item). The mean score is 6.8 out of 18 (or 38%). Students were able to guess the meanings of a little more than one third of the derived words.

A breakdown of the means for prefixed and suffixed words is presented in Table 3.3. The mean score for prefixed words is .44 and the mean score for suffixed words is .35. A paired t-test analysis of the prefixed and suffixed words shows that the differences are significant at p=.000.

Table 3.3  Mean Scores for Prefixed and Suffixed Words in Part I of the French Vocabulary Skills Test (N=40)

<table>
<thead>
<tr>
<th>Prefixed Words</th>
<th>% of Correct Answers</th>
<th>Suffix</th>
<th>% of Correct Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>décrochant</td>
<td>.15</td>
<td>animalerie</td>
<td>.30</td>
</tr>
<tr>
<td>incolore</td>
<td>.40</td>
<td>animaliser</td>
<td>.12</td>
</tr>
<tr>
<td>endormir</td>
<td>.17</td>
<td>animalier</td>
<td>.30</td>
</tr>
<tr>
<td>réchauffer</td>
<td>.72</td>
<td>colorant</td>
<td>.32</td>
</tr>
<tr>
<td>cohabiter</td>
<td>.37</td>
<td>bétifier</td>
<td>.32</td>
</tr>
<tr>
<td>inhabité</td>
<td>.82</td>
<td>bétise</td>
<td>.20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>bêtement</td>
<td>.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dormeur</td>
<td>.35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>dortoir</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td></td>
<td>chauffant</td>
<td>.55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>chauffagiste</td>
<td>.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td>habitabilité</td>
<td>.57</td>
</tr>
</tbody>
</table>

Mean = .44  Mean = .35
3.3.2 Students' Relational Knowledge

Students' relational knowledge was tested via Part II of the test which involved producing words from the same word families as the given derived words. Two sets of scores were given for each of the five items: one point for supplying the root of the word and 3 points for the total number of related words given (including the root of the word if it was given). As shown in Figure 3.1, the mean score on this part of the test is 39% (or 7.8 out of 20), which is the total of the root only score and the related words score. When the score is broken down into roots and related words, the percentage of correct roots is 54% (or 2.7 out of 5) while the percentage of correct related words is 34% (or 5 out of 15). A paired t-test analysis shows that the differences are significant at p=.000.

Figure 3.1 Mean Scores for Part II of the French Vocabulary Skills Test (N=40)
3.3.3 Students' Syntactic Knowledge

Figure 3.2 Mean Scores by Items for Part III of the French Vocabulary Recognition Test (N=40)

Students' syntactic knowledge was assessed using sentences in which a word was missing. Depending on the syntactic role of the missing word in each sentence, students were to guess which of four words of the same family was the missing word. The related words were chosen so that they were rare enough for students not to know them. The intent of the exercise was to get
students to infer their answers from each word's suffix which signals a specific syntactic category: noun, adjective, verb or adverb.

The mean score for this part of the test is 4.3 out of 12 or 36%. The break-down of scores by items is illustrated in Figure 3.2. By inspection, comparisons between syntactic categories of words reveal little difference in means for nouns, adjectives and verbs: 42 %, 35.5%, and 41% respectively. Adverbs, however, seem to have caused the most difficulty to students: the mean score is 21%.

3.3.4 Students' Knowledge of Correspondence Rules between Suffixes in English and French

Students' knowledge of correspondence rules between suffixes in English and French was assessed using a translation task. Students were to create French equivalents for rare English words they were not likely to know in French, and maybe not even in English. It was explained what a cognate was and then students had to create cognate French translations for the twelve given English words given. Lenient scoring involved assessing the accuracy of the translation of suffixes only, while strict scoring involved assessing the accuracy of the translation of the words in their entirety. The differences in the results for the lenient and the strict scoring is minimal: 3.3 out of 12 (27.5%) and 2.5 out of 12 (21%) respectively. Since the interest of the present study was with the translation of the suffixes to show knowledge of correspondence rules between the two languages, only the lenient scoring was used in the production of the data. Figure 3.3 shows the breakdown of the scores for each correspondence rule and for each class of words. By inspection, verb and adverb suffixes accounted for the lowest means: 20% and 7.5% of correct
answers respectively. Nouns and especially adjectives receive the highest percentages of correct answers (mean scores of 31% and 37.5% respectively).

Figure 3.3 Mean Scores by Correspondence Rules and Word Classes for Part IV of the French Vocabulary Skills Test (N=40)

3.3.5 Recognition and Analysis of Cognates

Cognates were analyzed in both the French Vocabulary Recognition Test and the French Vocabulary Skills Test. The French Vocabulary Recognition Test offered the opportunity to verify how well students can recognize cognates with English. The French Vocabulary Skills Test provides information on how well students were able to analyze cognates VS non-cognates.
Table 3.4  Total Number of Times Each Cognate and Non-Cognate Word Was Chosen in the French Vocabulary Recognition Test (N=40)

<table>
<thead>
<tr>
<th>Cognates</th>
<th># of Times chosen</th>
<th>Non-Cognates</th>
<th># of Times Chosen</th>
</tr>
</thead>
<tbody>
<tr>
<td>gaiement</td>
<td>0</td>
<td>une usine</td>
<td>0</td>
</tr>
<tr>
<td>naïf</td>
<td>1</td>
<td>ivre</td>
<td>0</td>
</tr>
<tr>
<td>une inondation</td>
<td>1</td>
<td>lointain</td>
<td>0</td>
</tr>
<tr>
<td>joindre</td>
<td>1</td>
<td>avaré</td>
<td>0</td>
</tr>
<tr>
<td>émettre</td>
<td>4</td>
<td>vaincre</td>
<td>0</td>
</tr>
<tr>
<td>clair</td>
<td>5</td>
<td>nuisible</td>
<td>0</td>
</tr>
<tr>
<td>surprendre</td>
<td>7</td>
<td>exiger</td>
<td>0</td>
</tr>
<tr>
<td>un auteur</td>
<td>10</td>
<td>le caoutchouc</td>
<td>0</td>
</tr>
<tr>
<td>terminer</td>
<td>10</td>
<td>un foulard</td>
<td>1</td>
</tr>
<tr>
<td>infiniment</td>
<td>12</td>
<td>un paquebot</td>
<td>1</td>
</tr>
<tr>
<td>prolonger</td>
<td>12</td>
<td>écligner</td>
<td>1</td>
</tr>
<tr>
<td>hésiter</td>
<td>20</td>
<td>un vainqueur</td>
<td>2</td>
</tr>
<tr>
<td>efficace</td>
<td>22</td>
<td>souffronner</td>
<td>2</td>
</tr>
<tr>
<td>énergique</td>
<td>24</td>
<td>soutenir</td>
<td>2</td>
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<tr>
<td>la politique</td>
<td>29</td>
<td>pâlir</td>
<td>2</td>
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<tr>
<td>un oncle</td>
<td>33</td>
<td>un trou</td>
<td>3</td>
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<tr>
<td>rapidement</td>
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<td>un naufrage</td>
<td>3</td>
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<tr>
<td>singulier</td>
<td>37</td>
<td>la colère</td>
<td>3</td>
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<tr>
<td>chic</td>
<td>37</td>
<td>maladroit</td>
<td>3</td>
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<td>Total:</td>
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<table>
<thead>
<tr>
<th>Cognates</th>
<th># of Times chosen</th>
<th>Non-Cognates</th>
<th># of Times Chosen</th>
</tr>
</thead>
<tbody>
<tr>
<td>boutonner</td>
<td>4</td>
<td>une pègre</td>
<td>4</td>
</tr>
<tr>
<td>aboyer</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>peureux</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>un odorat</td>
<td>5</td>
<td>sigu</td>
<td>5</td>
</tr>
<tr>
<td>écarter</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gazer</td>
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<td>toutefois</td>
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<tr>
<td>une poignée</td>
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<td></td>
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<tr>
<td>un museau</td>
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<td>la confiture</td>
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<td>un siècle</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>fondre</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>un rasoir</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>un mélange</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>une gorge</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>déménager</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>répandre</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>une chaussure</td>
<td>10</td>
<td>livrer</td>
<td>11</td>
</tr>
<tr>
<td>livrer</td>
<td>11</td>
<td>vivant</td>
<td>14</td>
</tr>
<tr>
<td>un roman</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>une cerise</td>
<td>23</td>
<td>goûter</td>
<td>32</td>
</tr>
<tr>
<td>trouver</td>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>une équipe</td>
<td>36</td>
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<tr>
<td>Total:</td>
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</tbody>
</table>
A quantitative analysis of the results focusing on the difference between cognate words and non-cognate words with English shows that students indicated as known considerably more cognates than non-cognates: the 46 non-cognate words were chosen 311 times in total while the 19 cognate words were chosen 300 times in total. If we multiply the number of cognates by the number of students (40) and then divide the number of times they were chosen by this total, we obtain an average of 39%. When the same calculation is applied to non-cognates we obtain an average of 17%. A paired t-test analysis shows that the differences are significant at $p=.000$. However, a qualitative analysis of the results for the cognates shows that a fair number of cognates were hardly recognized by students, some of them being quite close in spelling to their English counterparts. The list of cognates and non-cognates and the frequency of answers are presented in Table 3.4. Eight cognate words ($hésiter$, $efficace$, $énergique$, $la$ $politique$, $un$ $oncle$, $rapidement$, $singulier$, $chic$) compared to four non-cognate words ($une$ $cerise$, $goûter$, $trouver$, $une$ $équipe$) were each recognized by half or more than half of the students.

Note that for the purpose of this analysis, cognates were identified according to the criteria set by LeBlanc and Séguin (1995). Included were homographs (words that have the same orthographic forms in both languages and share at least one of their senses) and parographs (words with similar but not quite identical orthographic forms). The main rule of selection regarding parographs is that the words can only have one graphic variation and that the variation can be described in terms of a phonological/morphological rule. An exception to the one variation only rule is when there are two graphic variations in a word representing two different correspondence rules that morphologically complement each other and occur together in the same
place in the word (e.g., logiquement: -ique =-ical; -ment = -ly). Another exception is when the
two rules are not represented consecutively in the word, but the chances of recognition of the
word seem high because the two rules are highly recognizable (e.g., anormalement = abnormally).
Consequently, such words as boutonner, rasoir and soutenir were not considered here as
cognates.

An analysis of the answers given for cognates compared to non-cognates with English
was also done for each of the first three parts of the French Vocabulary Skills Test to try to see if
the fact that a French word was a cognate with English influenced students' analysis of it.

In Part I, the words that constituted the right answers (i.e. the 3 words in each item that
matched the 3 definitions) were analyzed in terms of their base morpheme. Items 1, 2 and 6
involve base morphemes which are cognates with English. The mean score for these items (.37) is
almost equal to the mean score (.38) for the words involving non-cognate base morphemes. There
is obviously no indication that this feature of the derived words helped students guess their
meanings. A paired t-test analysis showed no significant difference.

In Part II of the test, little comparison can be made between the cognate and non-cognate
words with English since only one given word was a non-cognate. However, cognate words do
not seem to have helped students produce more correct related words: the cognate words
produced an average score (root + other related words) of 38% while the non-cognate word
produced an average of 41%. Again, a paired t-test analysis showed no significant difference.

In Part III of the test, the difference between cognate and non-cognate words with English
is again not statistically significant according to a paired t-test. The averages are 35% for
cognates and 37% for non-cognates. (Cognate words were: exaspération, ignominieaux,
impétueusement, datable, anatomiste and obligeamment). However, three of these six words have the same or very similar spelling in French and English (exaspération, datable and anatomiste).

3.4 Students' Vocabulary Knowledge and its Relationship with Students' Word Analysis Skills

Students' vocabulary knowledge was assessed, as mentioned earlier, with the French Vocabulary Recognition Test. Table 3.5 presents the test results. Students identified on average 15 real words out of 65 as being known. Guessing was minimal: students identified on average 2 words out of 35 pseudo-words as words they knew. (There were a few extreme cases involving guessing: three students identified 10, 21 and 11 pseudo-words respectively as being known.) When the Anderson and Freebody (1983) formula (see 2.4.1) is applied to the whole set of data, a mean score of 0.19 (the perfect score being 1) with a standard deviation of .07 is obtained. The Table of Frequencies (Table 3.6) indicates a rather large spread of abilities in the group, with 72.5% of the students falling within .07 S.D. from the mean and 27.5% of the students falling outside the range of the S.D. (15% below S.D. range and 12.5% over S.D. range). However, the variation takes place within a rather small range of scores (.05 to .31) in the lower part of the scale and does not necessarily indicate a disproportionate range of abilities. There was hardly any difference in scores between the two grade 10 classes: means of .18 for class 1 and .19 for class 2 with a standard deviation of .07 for each class. Both groups appear to be similar in ability level. Consequently, further analysis will consider both classes as one group.
Table 3.5  Scores for the French Vocabulary Recognition Test

<table>
<thead>
<tr>
<th>Class</th>
<th>Mean ( p(k) )</th>
<th>Standard Deviation</th>
<th>Average of real words known (Max = 65)</th>
<th>Average of pseudo-words known (Max = 35)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class 1 ( (N = 16) )</td>
<td>.18</td>
<td>.07</td>
<td>15.5</td>
<td>2</td>
</tr>
<tr>
<td>Class 2 ( (N = 24) )</td>
<td>.19</td>
<td>.07</td>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>Class 1 + Class 2 ( (N = 40) )</td>
<td>.19</td>
<td>.07</td>
<td>15</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 3.6  Table of Frequencies for the French Vocabulary Recognition Test

<table>
<thead>
<tr>
<th>Scores</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>.01</td>
<td>1</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>.06</td>
<td>1</td>
<td>2.5</td>
<td>5.0</td>
</tr>
<tr>
<td>.08</td>
<td>1</td>
<td>2.5</td>
<td>7.5</td>
</tr>
<tr>
<td>.09</td>
<td>2</td>
<td>5.0</td>
<td>12.5</td>
</tr>
<tr>
<td>.10</td>
<td>1</td>
<td>2.5</td>
<td>15.0</td>
</tr>
<tr>
<td>.12</td>
<td>1</td>
<td>2.5</td>
<td>17.5</td>
</tr>
<tr>
<td>.14</td>
<td>2</td>
<td>5.0</td>
<td>20.0</td>
</tr>
<tr>
<td>.15</td>
<td>3</td>
<td>7.5</td>
<td>27.5</td>
</tr>
<tr>
<td>.16</td>
<td>1</td>
<td>2.5</td>
<td>30.0</td>
</tr>
<tr>
<td>.17</td>
<td>2</td>
<td>5.0</td>
<td>35.0</td>
</tr>
<tr>
<td>.18</td>
<td>3</td>
<td>7.5</td>
<td>42.5</td>
</tr>
<tr>
<td>.20</td>
<td>2</td>
<td>5.0</td>
<td>47.5</td>
</tr>
<tr>
<td>.22</td>
<td>3</td>
<td>7.5</td>
<td>55.0</td>
</tr>
<tr>
<td>.23</td>
<td>1</td>
<td>2.5</td>
<td>62.5</td>
</tr>
<tr>
<td>.24</td>
<td>1</td>
<td>2.5</td>
<td>65.0</td>
</tr>
<tr>
<td>.24</td>
<td>1</td>
<td>2.5</td>
<td>67.5</td>
</tr>
<tr>
<td>.25</td>
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<td>.26</td>
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<td>72.5</td>
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<td>.26</td>
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<td>75.0</td>
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<tr>
<td>.27</td>
<td>1</td>
<td>2.5</td>
<td>77.5</td>
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<td>.29</td>
<td>1</td>
<td>2.5</td>
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<tr>
<td>.30</td>
<td>1</td>
<td>2.5</td>
<td>82.5</td>
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<tr>
<td>.31</td>
<td>2</td>
<td>5.0</td>
<td>90.0</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
Table 3.7 shows the correlations between scores on the French Vocabulary Recognition Test (measuring vocabulary knowledge) and on each part of the French Vocabulary Skills Test (measuring word analysis skills) and total scores. No significant correlations were found.

Table 3.7 Correlations: Vocabulary Knowledge/Word Analysis Skills

<table>
<thead>
<tr>
<th></th>
<th>Part I</th>
<th>Part II</th>
<th>Part III</th>
<th>Part IV (lenient scoring)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>French Vocabulary Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary Recognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pearson</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation</td>
<td>Max=18</td>
<td>Max=20</td>
<td>Max=12</td>
<td>Max=12</td>
<td>Max=62</td>
</tr>
<tr>
<td>French</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocabulary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition Test</td>
<td>.168</td>
<td>-.025</td>
<td>.29</td>
<td>.010</td>
<td>.169</td>
</tr>
</tbody>
</table>

3.6 Summary of Results

Some of the most interesting results obtained through this study are:

- Students have some awareness of derivational morphology.
- Students' awareness of derivational morphology is not correlated with their general vocabulary knowledge.
- Students seem to know the meaning of prefixes better than the meaning of suffixes.
- Students have more facility producing roots than derived words.
- Suffixes producing adverbs are the least recognized by students.
- Students seem to have more facility recognizing cognate words than non-cognate words.
- Students did not have more facility analyzing cognate words than non-cognate words.
Chapter 4
Discussion

4.1 Introduction

In this chapter, a number of conclusions will be presented in light of the results of the present study. Its conclusions and results will also be compared with those of the studies reviewed in section 1.6.

4.2 Conclusions Regarding Grade 10 Core French Students’ Word Analysis Skills

The scores of the French Vocabulary Skills Test indicate that there is a beginning of awareness of derivational morphology, but that there is still a long way to go before that awareness can serve these students well in their understanding of French.

The results of the French Vocabulary Skills Test seem to indicate that the students in the study have reached about the same level of word analysis skills as far as the following aspects of derivational morphology are concerned: relational knowledge, syntactic knowledge and knowledge of the meaning of common prefixes and suffixes. Their knowledge of correspondence rules between suffixes in English and in French seems to lag behind considerably. Total mean scores for each of the four aspects of derivational morphology assessed through the French
Vocabulary Skills Test (as presented in Table 3.2) are, in ascending order:

1) knowledge of correspondence rules between suffixes in English and in French (Part IV of the test): 24% (for the lenient scoring)
2) syntactic knowledge (Part III of the test): 36%
3) knowledge of the meaning of common prefixes and suffixes (Part I of the test): 38%
4) relational knowledge (Part II of the test): 39%

However, these results can only be looked at qualitatively since the tasks were very different in nature from each other. Parts II and IV involve some kind of production, while Parts I and III involve multiple-choice questions not requiring any kind of production. Accordingly, it offers limited information as to which skills are more developed than others and as to the possible order of acquisition of the different skills. Further testing would be needed to corroborate findings from research done by Tyler and Nagy (1989) that shows that syntactic knowledge is acquired after relational knowledge. (Note that Tyler and Nagy include the knowledge of common prefixes and suffixes under the label of relational knowledge.)

Further testing along with a correlation of test results with students’ language background would also be needed to corroborate findings by Koda, Takahashi and Fender (in press) showing that not all aspects of morphological awareness develop at the same rate and in the same manner among L2 learners with different L1s.

Some more definite results however deal with knowledge of the meanings of suffixed words compared to prefixed words, and with roots production compared to other derived words. Results from Part I of the test show that students are better at interpreting the meaning of prefixes than of suffixes, even when the suffixes are almost the same as English in spelling and have the
same meaning in English. The scores in Part III also show that knowledge of suffixes by this
group of students was minimal as far as being able to determine the syntactic category of the
words that the presence of these suffixes indicates. These findings corroborate findings by Schmitt
and Meara (1997) that L2 students have a rather week awareness of derivative suffixes. It would
of course be interesting to test if their skills at interpreting the meaning of suffixes are as weakly
or better developed in English. Indeed, Nagy, Diakidoy and Anderson (1993) found that high
school students had very little knowledge of the meanings of suffixes in their L1. Teaching
students to analyze words into their different components or morphemes may be a worthwhile
venture that could help them in their first language as well as in any other languages they are or
will be learning.

A closer analysis of the results of Part II of the test was also interesting. Students were
better able to find the roots of the given derived words than to find other related derived words.
This might be due however to a simple lack of vocabulary or to difficulties associated with trying
to recall words without appropriate contexts. Prior experience with related words and contexts
were indeed determining factors in Wysocki and Jenkins’ (1987) study. (Students performed
better when they had seen the words before and when the words were in a context.) However,
the greater ability to extract the base form from the derived form than to generate derived forms
from the base form was also noticed by Fowler and Liberman (1995), although among younger
LI learners. The results of the present study nevertheless are encouraging because they show that
students have the ability to decompose words to extract their roots. Of course, it is impossible to
know if students were successfully using that skill prior to the test to interpret new words, or if
they gained a quick handle on it from the examples given to them at the beginning of the test. In
any event, we may want to speculate that it is a skill that can be more fully developed without undue difficulty at this level.

Surprising results came from breaking down the scores for Part III and IV by word classes. Adverbs were the category of words with which students were the least successful. This may be due however to the fact that the -ent ending is also used in French as the third person plural ending of verbs and also as the ending for a number of nouns. It may show that students need help in differentiating adverbs from verbs and nouns. In fact, in my experience, core French students often pronounce the -ent ending of verbs like the -ent ending of adverbs. This may be one more proof of their confusion.

Students' knowledge of corresponding rules between suffixes in English and French did not prove to be very developed. One can presume that this weakness would hamper the students' ability to recognize a number of cognates with English in their reading. The task was however rather demanding as it involves more than just recognition of the rules. It was purposely designed in this fashion so as to discover how deep students' awareness of these rules were. It may be that a greater awareness of these rules would help students with cognate recognition. As discussed later, even though students recognize more cognates than non-cognates in the French Vocabulary Recognition Test, they missed a great number of them.

Students also did not perform better on items in the French Vocabulary Skills Test that involve cognates. Scores from the first three parts of the test (testing respectively knowledge of the meaning of common prefixes and suffixes, relational knowledge, and syntactic knowledge) show that students were not more successful, in fact they were slightly less successful at giving the right answers when the words were cognates with English. Cognates may have even caused
students in some cases to make errors, especially in Part II of the test which involved producing
derivationally related words. Students, for example, produced words such as *calculation* and
*calculator* for the given word *calculatrice*. It is obvious that any instruction geared at teaching
cognate recognition should also involve recognition of false cognates and provide cautions
regarding possible errors due to overgeneralization and the sometimes imperfect match that exists
between English and French.

Cognates with English also played no helping role in Part III of the test, either because
students did not recognize them (some words are rather learned in English and in French, such as
*ignominious, impetuously* and *obligingly*) or because they lacked syntactic knowledge in English
as well or failed to recognize the corresponding suffixes. However, the French words that have
cognates that are less learned in English resulted in some of the best item means (for example:
*exaspération, datable* and *anatomiste*). It may also be that these words have a rather easily
recognizable stem in both languages.

Cognates were however better recognized by students than non-cognates in the French
Vocabulary Recognition Test, but the results from this test do not necessarily show that students
have refined the skill of cognate recognition. Indeed, the majority of them missed some very
obvious ones: *gaiement* = gaily; *naïf* = naive, *une inondation* = an inundation, *émettre* = to emit,
*clair* = clear, *joindre* = to join, *un auteur* = an author, *terminer* = to terminate, *infiniment* =
ininitely, and *prolonger* = to prolong.

Many factors may account for non-recognition of cognates, the students' own vocabulary
size in English being an important one that was not taken into consideration in this study. Many of
the participants are learning French as a third language and are speaking a language other than
English at home all the time (3 students), half the time (8 students) or occasionally (7 students).

This factor and others such as experience with cognates, degree of spelling correspondence and word frequency in L1 are all factors influencing cognate recognition that Bébout (1978) and Browne (1982) outlined in their study.

A number of studies cited earlier (e.g., Hammer, 1978; Browne, 1982; and Lightbown & Libben, 1984) have concluded that cognate recognition is not a naturally acquired skill and that students need to be trained to use it. Nagy, Garcia, Durgunoglu, and Hancin-Bhatt (1993) also discovered poor knowledge of cognates among bilingual students in grades 4-6. The present study partly corroborates these conclusions.

Hancin-Bhatt and Nagy’s (1994) study, which dealt with the effect of age on cognate recognition among bilingual grades 4, 6 and 8 students, revealed that analysis and recognition of cognates increase with age. This finding may show that teaching skills related to the analysis and recognition of cognates would be most helpful in high school. Hammer (1978) came to the same conclusion. Experiments by Tréville (1996) also showed a definite advantage in teaching skills related to the analysis and recognition of cognates on students’ reading abilities.

4.3 Conclusions Regarding Grade 10 Core French Students’ Vocabulary Knowledge

Students’ vocabulary knowledge, as measured by the French Vocabulary Recognition Test, is quite low. This is not that surprising considering that the test was designed as well for immersion students who took part in the Harley study. The test was not administered to gather
specific data on the size of the vocabulary of grade 10 core French students, but to try to see if better vocabulary knowledge necessarily leads to better word analysis skills. As discovered through the correlation analysis, this does not seem to be the case. The correlations between scores for the four different parts of the French Vocabulary Skills Test and its total score and the French Vocabulary Recognition Test are not significant.

The lack of correlation found in this study between vocabulary knowledge and word analysis skills is not supported by results from a study by Schmitt and Meara (1997) who concluded that vocabulary size was correlated with the ESL secondary and postsecondary students’ knowledge of suffixes. The Harley study (forthcoming) that is investigating the effect of age, general vocabulary knowledge and exposure to the language may be able to shed a little more light on this issue.

It may also be, as suggested by Freyd and Baron (1982), that higher achieving students are better than average ones at using derivational rules and that vocabulary knowledge does not play a significant role in this respect. This study did not use students’ overall academic success as a comparative measurement.

4.4 General Conclusions

In conclusion, what the present study reveals is that grade 10 core French students have limited skills in using the four aspects of derivational morphology tested and that their cognate recognition skills are also limited. However, the good news may be that these limited skills were most likely acquired implicitly because it is almost certain from informally questioning students
and explaining the different parts of the French Vocabulary Skills Test to them that they had had no formal kind of instruction or done specific activities geared at developing word analysis skills. This can also be inferred from the textbooks they had been using which do not focus much attention on word analysis skills. So if it is true that students were able to reach that level, as low as it may be, by themselves, it could be a sign that a little focused instruction could expand their already existing word analysis skills without much effort and help them improve their reading comprehension skills. We already know from studies reviewed earlier (Tyler & Nagy, 1990; Carlisle, 1995; and Fowler & Liberman, 1995) that word analysis skills and reading comprehension skills are closely related.

Finally, a word of caution regarding the conclusions of this study are in order. First of all, the small sample of grade 10 students does not allow any kind of generalization to the whole population of grade 10 core French students across Canada. Also, the French Vocabulary Skills Test only assessed a few word analysis skills, using a limited number of prefixes and suffixes and a limited number of tasks. It is possible that students would have performed differently with different tasks.
Chapter 5

Implications

5.1 Pedagogical Implications

The results of the present study has shown that grade 10 core French students' word analysis skills exist, but that they are limited. The literature review has shown that L1 students who possess good word analysis skills are proficient readers. The studies reviewed almost all came to the conclusion that some kind of direct vocabulary teaching would help students be better readers. Direct vocabulary teaching has also been advocated by many (e.g., Hammer, 1978; Hammer & Giauque, 1989, Tréville, 1993; Meara, 1993; and Nation, 1993) as a possible short cut to faster fluency by L2 learners. The question here is whether the results from the present study could also point to the possibility of using direct vocabulary teaching to help students be better readers and to help them learn new words at a faster rate.

The fact that grade 10 core French students were rather weak at interpreting suffixes or at recognizing cognates, for example, should not be too surprising in the light of the studies that have shown that students even in high school lack knowledge of suffixes in their L1 and that L2 students do not draw as much advantage as initially thought from cognates. However, most recent French as a second language textbooks have capitalized quite extensively on students being able to analyze words to guess their meanings so that written authentic documents could be used. This was done with the good intention of providing students with more interesting readings that would
incite them to read more in French. And since the more one reads, the more one gets acquainted with new words, that was seemingly a good move. Motivational materials being also one of the most important components of a French L2 program, authentic readings specifically geared at the targeted age group were considered a way to the students’ heart. There is no indication that these materials are not fulfilling the purposes for which they were intended: mostly giving information or points of view on a chosen topic so as to promote discussions among students; exposing students to new vocabulary from which students can draw in their own discussions or written exposés; and proving to students that they are capable of handling ‘real’ French. However, one may wonder in the light of the current study and the others reviewed in this thesis if students are taking as much advantage as they could from these authentic readings and if they are always chosen with students word analysis skills’ (or lack thereof) in mind. The assumption has been that students would be able to guess the meaning for example of habillement if they are already familiar with the verb s’habiller or that they would be able to understand the adjective clair because of its resemblance with the English word clear. The present study and others cast some doubt on this assumption. Of course, the context can definitively help some readers, but there again you need to be a good reader so that you know enough words in the proximity of the cognate or the derivative to take advantage of the context. As mentioned above, many authors have contended that direct vocabulary teaching focusing on word analysis skills (both at the level of decomposing French words into their parts and focusing on the meaning of each, and at the level of comparing words with English) is a worthwhile venture. It may be that a rather simple way to take better advantage of authentic French readings which, as mentioned earlier contain in average between 25 to 30% of cognates with English and an undetermined number of derivatives,
is to teach students on a regular basis some word analysis techniques. This may not only help them with reading comprehension, but also may help them acquire new words at a faster rate.

An interesting observation I have made is that core French students who start French in grade 4 seem to acquire vocabulary at a rather quick pace for the first 3 or 4 years and then reach some kind of plateau. This phenomenon has been noticed by many teachers in the field to whom I have spoken. The reasons for this, apart from the fact that general motivation for school sometimes declines around that time, may be a greater emphasis on the structure of the language or a greater emphasis on more abstract words that take longer to learn than the animals, household objects, numbers, colours, days of the week, and so on that are taught in elementary school. However, since students are often motivated by the easily perceivable progress they make, and since progress in word knowledge may be more easily recognizable by students than progress related to sentence structure, it could be that motivation from grade 8 onwards could be enhanced by helping students learn quickly and relatively effortlessly a great number of new words. It is also my opinion and that of McCarthy (1990), for example, that what students need first and foremost to express themselves in any meaningful way is a great number of words rather than a great knowledge of verb tenses, pronouns, and so on. Furthermore, students should know the meanings of the verbs they are asked to conjugate, or of the adjectives they are asked to make agree with nouns. It is indeed quite sad to realize that often students are asked to manipulate words grammatically for which they do not know the meanings. Also, the more words students know, the semantically richer the texts they are able to read, which in turn help them learn new words. As well, as suggested by Kelly (1990), the greater the students’ vocabulary, the greater their chance of successfully guessing the meanings of words from context.
It has been suggested by many that L2 reading combined with vocabulary activities could help enhance vocabulary acquisition. The question, however, is always what type of activities are the most successful. In the case of activities focusing specifically on word analysis skills, the question is not only how instruction should be done, but also, for example, which prefixes and suffixes or which correspondence rules between L1 and L2 should be the focus of the activities. One could rely on frequency lists to choose the most productive French prefixes and suffixes (see, for example, Dubois, 1962) and the most productive correspondence rules between English and French (see, for example, LeBlanc and Séguin, 1995). There are however pitfalls that students need to be made aware of: for example, the prefix dé- added to the French verb faire (to do) produces the meaning ‘to undo’, but déménager means ‘to move’ and not that one does not economize or spend what was economized (ménager = to economize, among other meanings). False analysis can be a problem with correspondence rules as well: for example, the French cognate for the English word plastic is plastique, but the French equivalent of energetic is énergique or plein d’énergie. The French adjective énergétique does exist, but has a different meaning. There are also such English suffixes as -ous that can have many different French equivalents: -eux, -é, -ique, -ant, -ent, -ieux, -el, -al. Fortunately, the first two are the most common equivalents (LeBlanc and Séguin, 1995), but still this complicates students’ learning.

After one has decided which suffixes and prefixes and which correspondence rules to teach, and which ones are most efficiently taught in which grades (which is also a question that no one to my knowledge has attempted to answer for L2 students of French), there is still the question of how best to integrate that teaching in the regular core French program. Any existing systematic ways of doing so in L1 and L2 have, to my knowledge, been attempted in exercise
books or lessons (see Tréville, 1993 for English L2; Hammer & Giauque, 1989 for French L2; David, 1994 for French L1; and Redman & Ellis, 1990, Sökmen, 1992, Taylor, 1992, and Keen, 1994 for English L1) that are not part of any regular program. They contain interesting ideas, but in most cases, the activities, because of their lack of relevant context, cannot be integrated meaningfully with the topics or themes being developed in the L2 classes. In my opinion, instruction focusing on word analysis skills should be able to help students acquire new vocabulary faster if they form an integral part of the chapter or unit being studied. For example, regular focused attention on cognate recognition and correspondence rules should help students considerably. Some practice activities could even help if there is a need and interest for them: for example, doing some cognate translation of French words ending with -té after having noticed a number of such cognates in a reading. Teaching of such rules could be done periodically in every grade (preferably from the time students become more analytical - perhaps from grade 8 onwards), rather than suspending regular language teaching for a period of time to teach a number of rules together. Such a developmental or spiral approach should help students better grasp the usefulness of cognate recognition as a tool for reading comprehension and vocabulary acquisition, and help them to handle that tool in the most efficient and the safest way possible. The same can apply to teaching meanings of prefixes and suffixes and word families. It does not take that much more effort, for example, to learn a new word along with its derivationally related words. It surely takes less effort than to learn the same number of completely new words. The advantage is that students may get the feeling by learning word families that they are expanding their vocabulary considerably. Opportunities for learning word families can easily arise from topics or themes which are the object of units of study. For example, in a French unit on music, one could present a
number of family trees: musique (musical, musicalement, musicien, music-hall), chanter (chanteur, chanson, chant, chantonner), composer (composition, compositeur). The main approach here is to teach a set of target words in a way that generates the knowledge of a larger set of words. Stahl and Shiel (1992) believe that through such an approach "students learn not only a set of words, but something about those words that enables them to independently improve their word meaning store, accomplishing two important goals at once" (p. 226). Teaching the meanings of prefixes, suffixes and roots as part of a regular regimen of language awareness skills development can also not only provide a short-cut to learning the 3000 or so fundamental words of a specific level of proficiency, but also an awareness of how one language, and many others including the students L1, go about creating words. Training in word analysis in French could thus help students with other languages, including their L1, English. Well-designed and interesting word analysis activities could make students excited about words, leading them to devote more attention to them.

Finally, one can look at pedagogical implications related to the French Vocabulary Skills Test itself. Indeed, this test or an adapted version of it could possibly be used as a diagnostic tool by core French (or immersion) teachers. It may not only provide information about a class's general knowledge of derivational morphology, but also information about individual students' knowledge of derivational morphology. As suggested by Rubin (1988), L1 students with low scores on tests assessing derivational morphology are more likely to experience difficulties with written expression. Others (such as Tyler & Nagy, 1990; Carlisle, 1995; and Fowler & Liberman, 1995) have made similar observations about reading skills among L1 students. There is no reason
to believe that the same is not true for L2 students. It would be worth, in any event, to investigate the issue with them.

5.2 Implications for Further Research

The present study makes only a small contribution to the underdeveloped world of research in core French instruction in Canada. It was a first attempt at assessing where a certain group of students were in their development of word analysis skills, and at developing a test to serve that purpose. The test itself could now be used with other groups of grade 10 students to see if the results can be corroborated, and with grades 11 and 12 to see if the skills improve with age and exposure to the language. More importantly, perhaps, the test could be used as a pre- and post-test in experimental classroom research involving word analysis instruction.

Many questions also emerge from the present study, especially in relation to factors which can influence proper analysis of a word. The nature of the tasks used, previous exposure to the words included in the test, understanding of the language used in the definitions, the frequency of the suffixes or prefixes in words a specific group of students was previously exposed to, and the degree of transparency of the cognates used are but a few of the factors that may have influenced the results. Further research using additional types of tests for assessing the same skills with other students at this level is needed to supplement the data obtained in the present study. There is indeed much left to be investigated.
References


Look quickly through the French words listed below. Cross out any words that you do not know well enough to say what they mean. It is impossible to know some of these words because some of them are not real words, so no guessing please! You have 5 minutes to do the task.

vivant  magir  aigu
un mélange  ivre  une fombe
un moup  une lague  une inondation
soutenir  un torveau  une gorge
goûter  exiger  avare
un étoulage  une mignette  jambonnant
déménager  une équipe  un missonneur
ajurer  lointain  toutefois
une chaussure  hésiter  surprendre
fondre  un roman  chic
ornir  un papiment  la confiture
gôter  trouver  livrer
une piqûre  un siècle  un ganal
un foulard  écarter  une poignée
singulier  cruyer  un sid
une cerise  une donte  vaincre
une usine  naïf
pâlir
nuisible
soupçonner
infiniment
un naufrage
efficace
un pouçon
melaindre
un trou
un écours
lédouer
un oelon
garer
un museau
boutonner
une leuse
maladroit
un vainqueur
une couchole
peureux
incrédible
grelir
rapidement
aboyer
un vureuil
la colère
un vion
clignoter
le caoutchouc
un clage
prolonger
rompant
émeter
un paquebot
gaiement
la politique
récoûner
une hupeur
mosif
un odorat
énergique
joindre
clair
un auteur
un oncle
un rasoir
répandre
une rojette
terminer
un lavire
Dear students,

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Just answer by instinct, and have fun!

Thanks again for helping us.
Words are said to be of the same family or related when they share some RESEMBLANCE and some MEANING. (In the family tree above, the word coupable resembles the other words, but shares no meaning with them because it does not mean something that can be cut; it means guilty.) Remember this through this test which will deal with families of words.
In each family of four words below, match three of the words with their corresponding meanings. There is always one word that is not used. (Remember that it is possible that you won’t know many of these words, just indicate what you think they mean.)

Example:

1 criminalité
2 criminellement
3 criminologie
4 criminologue

1 animaüser
2 animalité
3 animalier
4 animalerie

1 incolore
2 colorant
3 coloration
4 décolorant

Let’s begin!

No. 1

1 animaüser
2 animalité
3 animalier
4 animalerie

Endroit où on garde des animaux
Rendre comme un animal
Personne chargée de l’entretien des animaux

No. 2

1 incolore
2 colorant
3 coloration
4 décolorant

Substance qui enlève la couleur
Qui n’a pas de couleur
Substance qui met de la couleur
**No. 3**

<table>
<thead>
<tr>
<th>No.</th>
<th>Word</th>
<th>Trans.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bêtement</td>
<td>Rendre bête</td>
</tr>
<tr>
<td>2</td>
<td>bêtifier</td>
<td>Action bête</td>
</tr>
<tr>
<td>3</td>
<td>bêtise</td>
<td>D’une façon bête</td>
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<tr>
<td>4</td>
<td>bêtifiant</td>
<td></td>
</tr>
</tbody>
</table>

**No. 4**

<table>
<thead>
<tr>
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<th>Word</th>
<th>Trans.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>dortoir</td>
<td>Personne qui dort</td>
</tr>
<tr>
<td>2</td>
<td>endormir</td>
<td>Faire dormir</td>
</tr>
<tr>
<td>3</td>
<td>dormeur</td>
<td>Salle où on dort</td>
</tr>
<tr>
<td>4</td>
<td>dormitif</td>
<td></td>
</tr>
</tbody>
</table>

**No. 5**

<table>
<thead>
<tr>
<th>No.</th>
<th>Word</th>
<th>Trans.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>lavable</td>
<td>Qui peut être lavé</td>
</tr>
<tr>
<td>2</td>
<td>laverie</td>
<td>Ce qu’on fait quand on lave</td>
</tr>
<tr>
<td>3</td>
<td>laveur</td>
<td>Endroit où on lave le linge</td>
</tr>
<tr>
<td>4</td>
<td>lavage</td>
<td></td>
</tr>
</tbody>
</table>

**No. 6**

<table>
<thead>
<tr>
<th>No.</th>
<th>Word</th>
<th>Trans.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>déshabiller</td>
<td>Habiller de nouveau</td>
</tr>
<tr>
<td>2</td>
<td>rhabiller</td>
<td>Enlever les vêtements</td>
</tr>
<tr>
<td>3</td>
<td>habillement</td>
<td>Ensemble des vêtements qu’on porte</td>
</tr>
<tr>
<td>4</td>
<td>habilleuse</td>
<td></td>
</tr>
</tbody>
</table>
Words are said to be of the same family when they share some resemblance and some meaning. Try to fill in the bubbles in each family tree below with words that you think belong to the same family as the given word. Do as in the examples. Each family tree does not need to be completely filled up. If you know more than three words in the family, add your own bubble.

Note: Just write one form of any word you choose. For example, if you write noir, do not write noire or noirs as well. If you write a verb, for example, chanter, do not write chante or chanterai as well.

Example No. 1
Example No. 2

Let's begin!

No. 1
For each of the sentences below, choose the word that you think fits best in the blank. (Remember that you are not likely to know these words. Just choose the word that sounds the best to you.)

Examples:

Entends-tu le ____________ de cet animal?

☑ a) mugissement
☐ b) mugissant
☐ c) mugit
☐ d) mugir

Il a répondu très ____________ .

☐ a) irrévérencieux
☐ b) irrévérence
☑ c) irrévérencieusement
☐ d) irrévérencieuse

Let’s begin!

1. Quelle ____________ !

☐ a) exaspérera
☐ b) exaspérant
☐ c) exaspère
☐ d) exaspération
2. Cela est très _____________.

☐ a) ignominie
☐ b) ignominieusement
☐ c) ignominieux
☐ d) ignominieuses

3. Elle agit toujours très _____________.

☐ a) impétueusement
☐ b) impétueuse
☐ c) impétuosité
☐ d) impétueuses

4. Il ne _____________ pas sur ce sujet.

☐ a) tarissable
☐ b) tarit
☐ c) tarissement
☐ d) intarissable

5. Cet _____________ se spécialise dans l’anatomie des animaux.

☐ a) anatomise
☐ b) anatomique
☐ c) anatomiquement
☐ d) anatomiste

6. Corrige ce calcul _____________.

☐ a) faute
☐ b) fautif
☐ c) fautivement
☐ d) fauter
7. Cette personne _____________ sur tout.

☐ a) dogmatise
☐ b) dogmatique
☐ c) dogmatiquement
☐ d) dogmatisme

8. Ce document est facilement _____________.

☐ a) datable
☐ b) datation
☐ c) dater
☐ d) date

9. On s'est servi d'une mesure _____________.

☐ a) dilatation
☐ b) dilatoire
☐ c) dilatabilité
☐ d) dilater

10. Il travaille dans une _____________.

☐ a) cristallinienne
☐ b) cristalline
☐ c) cristallerie
☐ d) cristallement

11. Ils parlent souvent _____________.

☐ a) allégorique
☐ b) allégoriques
☐ c) allégoriquement
☐ d) allégorie
12. Nous avons eu une bonne _________.

- a) rigoleur
- b) rigolo
- c) rigoler
- d) rigolade
Tu es l’auteur/e d’un dictionnaire

Many words in English and in French are quite similar. For example:

- plastic = plastique
- formula = formule

These words are called cognates. In this exercise, you are asked to create French equivalents for very rare English words. The French words you are creating should resemble in some way the English words, but they should look and sound French.

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<td>l’<strong>inactivité</strong></td>
</tr>
<tr>
<td>diffusely</td>
<td><strong>diffusément</strong></td>
</tr>
</tbody>
</table>

*Let’s begin!*

1. an actuary  
2. cataleptic  
3. gangrenous  
4. to magnetize  
5. a rotator  
6. indubitably  

13
<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>magnanimity</td>
<td>la _______</td>
</tr>
<tr>
<td>8</td>
<td>insular</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>to intercalate</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>indissolubly</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>an econometrician</td>
<td>un _______</td>
</tr>
<tr>
<td>12</td>
<td>arterial</td>
<td></td>
</tr>
</tbody>
</table>
THIS IS THE END!

THANK YOU FOR PARTICIPATING
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Example:

1. criminalité
2. criminellement
3. criminologie
4. criminologue

D’une façon criminelle
Étude des crimes
Personne qui étudie les crimes

Let’s begin!

No. 1

1. animaliser
2. animalité
3. animalier
4. animalerie

Endroit où on garde des animaux
Rendre comme un animal
Personne chargée de l’entretien des animaux

No. 2

1. incolore
2. colorant
3. coloration
4. décolorant

Substance qui enlève la couleur
Qui n’a pas de couleur
Substance qui met de la couleur
### No. 3

<table>
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<tr>
<th>No.</th>
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<th>Definition(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bêtelement</td>
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<tr>
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<td>bêtifiant</td>
<td></td>
</tr>
</tbody>
</table>

### No. 4

<table>
<thead>
<tr>
<th>No.</th>
<th>French Word(s)</th>
<th>Definition(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>illégal</td>
<td>Ce qu’on fait quand on rend quelque chose légal</td>
</tr>
<tr>
<td>2</td>
<td>légalement</td>
<td>D’une façon légale</td>
</tr>
<tr>
<td>3</td>
<td>légalisation</td>
<td>Qualité d’être légal ou conforme à la loi</td>
</tr>
<tr>
<td>4</td>
<td>légalité</td>
<td></td>
</tr>
</tbody>
</table>

### No. 5

<table>
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<th>French Word(s)</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>chauffagiste</td>
<td>Qui chauffe</td>
</tr>
<tr>
<td>2</td>
<td>chauffant</td>
<td>Spécialiste du chauffage</td>
</tr>
<tr>
<td>3</td>
<td>réchauffer</td>
<td>Chauffer de nouveau</td>
</tr>
<tr>
<td>4</td>
<td>chaud</td>
<td></td>
</tr>
</tbody>
</table>

### No. 6

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<th>Definition(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>habitation</td>
<td>Habiter avec quelqu’un</td>
</tr>
<tr>
<td>2</td>
<td>inhabité</td>
<td>Qualité de ce qui est habitable</td>
</tr>
<tr>
<td>3</td>
<td>cohabiter</td>
<td>Qui n’est pas habité</td>
</tr>
<tr>
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Example No. 1
Let's begin!

Example No. 2

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- c) mugit
- d) mugir

Il a répondu très ____________ .

- a) irrévérencieux
- b) irrévérence
- c) irrévérencieusement
- d) irrévérencieuse

*Let's begin!*

1. Quelle ____________ !

- a) exaspérer
- b) exaspérant
- c) exaspère
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2. Cela est très ________________.

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☐ b) ignominieusement
☐ c) ignominieux
☐ d) ignominieuses

3. Elle agit toujours très ________________.

☐ a) impétueusement
☐ b) impétueuse
☐ c) impétuosité
☐ d) impétueuses

4. Il ne ________________ pas sur ce sujet.

☐ a) tarissable
☐ b) tarit
☐ c) tarissement
☐ d) intarissable

5. Cet ________________ se spécialise dans l’anatomie des animaux.

☐ a) anatomise
☐ b) anatomique
☐ c) anatomiquement
☐ d) anatomiste

6. Corrige ce calcul ________________.

☐ a) faute
☐ b) fautif
☐ c) fautivement
☐ d) fauter
7. Pauvre homme! Il a une vie ____________.

☐ a) croupit
☐ b) croupissante
☐ c) croupissement
☐ d) croupion

8. L’_________ de cet homme est sans mesure.

☐ a) opiniâtrement
☐ b) opiniâtreté
☐ c) opiniâtre
☐ d) opiniâtrer

9. Il m’a aidé à __________ le sel.

☐ a) épandeur
☐ b) épandre
☐ c) épandage
☐ d) épandeuse

10. Il a répété très ____________.

☐ a) obligeamment
☐ b) obligeant
☐ c) oblige
☐ d) obligeance

11. Voici une invention ____________.

☐ a) diabolique
☐ b) diablesse
☐ c) diablement
☐ d) diable
12. Elle a parlé avec beaucoup d’__________.

☐ a) allégrement
☐ b) allègre
☐ c) allègres
☐ d) allégresse
Tu es l'auteur/e d'un dictionnaire

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- formula = formule  

These words are called cognates.  
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*Let’s begin!*

1. an actuary  
2. cataleptic  
3. gangrenous  
4. to magnetize  
5. a rotator  
6. indubitably
7. stereotomy
8. recitative
9. to infuse
10. angelically
11. causalgia
12. radiological
THIS IS THE END!

THANK YOU FOR PARTICIPATING
February 1999

Dear Parent and Student:

I am a professor in the Modern Language Centre of the Ontario Institute for Studies in Education, University of Toronto, where I teach courses in second language education. I am interested in finding out how students of different ages cope with new words in French that are related to other words they already know. Being able to deal with such new vocabulary is very important for reading in French with ease and understanding.

I am planning a research study that will involve students doing two new kinds of vocabulary tests in French. This exercise is designed to be interesting and will not take much time — a little less than an hour of classtime altogether. The research is sponsored by the Social Sciences and Humanities Research Council of Canada. It has been approved by the School Board’s Research Review Committee and by the Principal of your school. When the study is complete, a report will be made available in the school library for interested parents and students to read.

I hope that you will allow your son/daughter to participate in this study, which will serve as a basis for the development of new classroom materials in French. The results of the tests will not have any effect whatsoever on school grades. The performance of individual students on the tests will be kept confidential, known only to the research team and not to their teachers. Agreement to take part in the study is purely voluntary, and a student is free to withdraw at any point if he or she wishes to do so. If you will permit your son/daughter to take part in the study, and he/she is agreeable, please could you both complete the attached consent form and return it to your school.

I sincerely appreciate your cooperation. If you would like to receive more information about the study, please contact me at the address below, by mail, fax, or telephone.

Thank you,

Birgit Harley, Ph.D.
Professor
CONSENT FORM

[Student's name]_________________________ [Birthdate]______________________

[School]_________________________ [Grade level]______________________

CHECK HERE

[ ] I give permission for my daughter/son to be tested in the vocabulary study conducted by Birgit Harley

[ ] I do NOT give permission for my daughter/son to be tested in the vocabulary study conducted by Birgit Harley

Signature of parent/guardian______________________________________________

For the student: I agree to take part in the vocabulary study. I understand what I am being asked to do and that I may withdraw from the study at any time

Student’s signature_____________________________________________________

Please fill out this section too. Thank you.

Did either parent learn French at home as a child? [ ] Mother Yes [ ] No

[ ] Father Yes [ ] No

Language use of the student at home (check one or more):

[ ] English: most or all of the time_____ half the time_____ occasionally_____

[ ] French: most or all of the time_____ half the time_____ occasionally_____

[ ] Other language: name of language________________________________________

[ ] most or all of the time_____ half the time_____ occasionally_____

Student’s French program background (please check where appropriate)

<table>
<thead>
<tr>
<th></th>
<th>Core French</th>
<th>Immersion</th>
<th>French language school</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kindergarten:</td>
<td>__________</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Grade 1:</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Grade 2:</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Grade 3:</td>
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<tr>
<td>Grade 4:</td>
<td>_____</td>
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<td>_____</td>
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<td>_____</td>
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<td>Grade 7:</td>
<td>_____</td>
<td>_____</td>
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<td>Grade 8:</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Grade 9:</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
<tr>
<td>Grade 10:</td>
<td>_____</td>
<td>_____</td>
<td>_____</td>
</tr>
</tbody>
</table>
Dear students,

Thank you for doing this test which is part of a research project. Your score will not be made available to your teachers, parents or to anyone at your school or school board. Please answer the questions to the best of your knowledge. It is important to remember that some words in this test are rare words that you will not know. (Most French adults do not know them.) The test doesn’t really measure how much vocabulary you know, but how good students of your age are at guessing the meanings of words. So don’t be discouraged if you don’t know a lot of words, it is quite normal.

Just answer by instinct, and have fun!

Thanks again for helping us.
Words are said to be of the same family or related when they share some resemblance and some meaning. (In the family tree above, the word coupable resembles the other words, but shares no meaning with them because it does not mean something that can be cut; it means guilty.) Remember this through this test which will deal with families of words.
In each family of four words below, match three of the words with their corresponding meanings. There is always one word that is not used. (Remember that it is possible that you won’t know many of these words, just indicate what you think they mean.)

Example:

1. criminalité
2. criminellement
3. criminologie
4. criminologue

D’une façon criminelle
Étude des crimes
Personne qui étudie les crimes

Let’s begin!

No. 1

1. animaliser
2. animalité
3. animalier
4. animalerie

Endroit où on garde des animaux
Rendre comme un animal
Personne chargée de l’entretien des animaux

No. 2

1. incolore
2. colorant
3. coloration
4. décolorant

Substance qui enlève la couleur
Qui n’a pas de couleur
Substance qui met de la couleur
### No. 3

<table>
<thead>
<tr>
<th>No.</th>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>bêtement</td>
<td>Rendre bête</td>
</tr>
<tr>
<td>2</td>
<td>bêtifier</td>
<td>Action bête</td>
</tr>
<tr>
<td>3</td>
<td>bêtise</td>
<td>D’une façon bête</td>
</tr>
<tr>
<td>4</td>
<td>bêtifiant</td>
<td></td>
</tr>
</tbody>
</table>

### No. 4

<table>
<thead>
<tr>
<th>No.</th>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>dortoir</td>
<td>Personne qui dort</td>
</tr>
<tr>
<td>2</td>
<td>endormir</td>
<td>Faire dormir</td>
</tr>
<tr>
<td>3</td>
<td>dormeur</td>
<td>Salle où on dort</td>
</tr>
<tr>
<td>4</td>
<td>dormitif</td>
<td></td>
</tr>
</tbody>
</table>

### No. 5

<table>
<thead>
<tr>
<th>No.</th>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>chauffagiste</td>
<td>Qui chauffe</td>
</tr>
<tr>
<td>2</td>
<td>chauffant</td>
<td>Spécialiste du chauffage</td>
</tr>
<tr>
<td>3</td>
<td>réchauffer</td>
<td>Chauffer de nouveau</td>
</tr>
<tr>
<td>4</td>
<td>chaud</td>
<td></td>
</tr>
</tbody>
</table>

### No. 6

<table>
<thead>
<tr>
<th>No.</th>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>habitation</td>
<td>Habiter avec quelqu’un</td>
</tr>
<tr>
<td>2</td>
<td>inhabité</td>
<td>Qualité de ce qui est habitable</td>
</tr>
<tr>
<td>3</td>
<td>cohabiter</td>
<td>Qui n’est pas habité</td>
</tr>
<tr>
<td>4</td>
<td>habitabilité</td>
<td></td>
</tr>
</tbody>
</table>
LES FAMILLES DE MOTS

Words are said to be of the same family when they share some resemblance and some meaning. Try to fill in the bubbles in each family tree below with words that you think belong to the same family as the given word. Do as in the examples. Each family tree does not need to be completely filled up. If you know more than three words in the family, add your own bubble.

Note: Just write one form of any word you choose. For example, if you write noir, do not write noire or noirs as well. If you write a verb, for example, chanter, do not write chante or chanterai as well.

Example No. 1
Example No. 2:

Let's begin!

No. 1
For each of the sentences below, choose the word that you think fits best in the blank. (Remember that you are not likely to know these words. Just choose the word that sounds the best to you.)

Examples:

Entends-tu le __________ de cet animal?

☑ a) mugissement
☐ b) mugissant
☐ c) mugit
☐ d) mugir

Il a répondu très __________.

☐ a) irrévérencieux
☐ b) irrévérence
☑ c) irrévérencieusement
☐ d) irrévérencieuse

Let's begin!

1. Quelle __________ !

☐ a) exaspérera
☐ b) exaspérant
☐ c) exaspère
☐ d) exaspération
2. Cela est très _____________.
   - a) ignominie
   - b) ignominieusement
   - c) ignominieux
   - d) ignominieuses

3. Elle agit toujours très _____________.
   - a) impétueusement
   - b) impétueuse
   - c) impétuosité
   - d) impétueuses

4. Ce document est facilement _____________.
   - a) datable
   - b) datation
   - c) dater
   - d) date

5. Il ne ____________ pas sur ce sujet.
   - a) tarissable
   - b) tarit
   - c) tarissement
   - d) intarissable

   - a) anatomise
   - b) anatomique
   - c) anatomiquement
   - d) anatomiste
7. Corrige ce calcul _____________.
   □ a) faute
   □ b) fautif
   □ c) fautivement
   □ d) fauter

8. Pauvre homme! Il a une vie _________________.
   □ a) croupit
   □ b) croupissante
   □ c) croupissement
   □ d) croupion

9. Il m’a aidé à ________________ le sel.
   □ a) épandeur
   □ b) épandre
   □ c) épandage
   □ d) épandeuse

10. Il a répété très _________________.
    □ a) obligeamment
    □ b) obligeant
    □ c) oblige
    □ d) obligeance

11. Voici une invention _________________.
    □ a) diabolique
    □ b) diablesse
    □ c) diablement
    □ d) diable
12. Il travaille dans une ____________.

☐ a) cristallinienne
☐ b) cristalline
☐ c) cristallerie
☐ d) cristallement
Tu es l’auteur/e d’un dictionnaire

Many words in English and in French are quite similar. For example:  
\textit{a formula} = \textit{une formule}  
These words are called cognates.

In this exercise, you are asked to create French equivalents for very \textbf{rare} English words. The French words you are creating should resemble in some way the English words, but they should look and sound French.

<table>
<thead>
<tr>
<th>English words</th>
<th>Your French translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>popular</td>
<td>\underline{populaire}</td>
</tr>
<tr>
<td>an aristocrat</td>
<td>un/une \underline{aristocrate}</td>
</tr>
</tbody>
</table>

\textit{Let’s begin!}

1. magnanimity     
2. cataleptic       
3. gangrenous       
4. to magnetize     
5. a rotator        
6. indubitably
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>stereotomy</td>
<td>la ___________________________</td>
</tr>
<tr>
<td>8.</td>
<td>recitative</td>
<td>____________________________</td>
</tr>
<tr>
<td>9.</td>
<td>to aspire</td>
<td>____________________________</td>
</tr>
<tr>
<td>10.</td>
<td>angelically</td>
<td>____________________________</td>
</tr>
<tr>
<td>11.</td>
<td>causalgia</td>
<td>la __________________________</td>
</tr>
<tr>
<td>12.</td>
<td>radiological</td>
<td>____________________________</td>
</tr>
</tbody>
</table>
THIS IS THE END!

THANK YOU FOR PARTICIPATING
### Appendix E

**French Vocabulary Skills Test**

**Scoring procedures and answer keys**

#### Part I

<table>
<thead>
<tr>
<th>No.</th>
<th>1</th>
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<th>3</th>
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</thead>
<tbody>
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<td>No. 2</td>
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<td>No. 3</td>
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<td>No. 4</td>
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<td>1</td>
</tr>
<tr>
<td>No. 5</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>No. 6</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Part II

- See the most frequent derivatives below for each word. If more rare derivatives are given as answers, accept them if they exist in a French dictionary like *Le Robert* or *Le Larousse*.
- Accept spelling mistakes as long as they do not change the pronunciation of the word or is obviously an omission on the student’s part (e.g.: *logitude* instead of *longitude* or *longeur* instead of *longueur*). Do not accept for example *discourager* which is obviously copied from the English. Do not accept as well *longu* or *imagin*. In these instances, students seemed to have just attempted to find the root without knowing what it meant.
- Accept any conjugated form of a verb.
- Accept any gender of an adjective.
- Do not accept more than one inflectional form of the same word.
- Give one mark for each derivative to a maximum of three and give an extra mark if the root (or one of the roots) of the word is part of the derivatives. (For each item, give a mark out of three for the derivatives and a mark out of one for the root.)
No. 1  LONGUEMENT  
Root: long(ue)  
Possible derivatives: longitude, longitudinal, longitudinalement, longueur, longer, longe, longtemps, longévité, longuement, longue-vue, long-courrier, élonger, allonger, alloongement, élongation, prolonger, prolongement  
Do not accept longue if long is already there even though it could be a noun (une longue - a musical term). Accept only if preceded by the article une or la. Do not accept longuer.

No. 2  ENCOuRAGER  
Root: courage  
Possible derivatives: courageux (-euse), courageusement, encouragement, encourageant, décourager, découragement, décourageant  
Do not accept discourager.

No. 3  IMAGINAIRE  
Roots: image, imaginer, imaginé(e), imagé  
Possible derivatives: imaginatif (-ive), imagination, imaginable, imagerie, imagier (-ière), inimaginable  
Do not accept imaginarie, or imagin.

No. 4  CALCULATRICE  
Roots: calcul, calculer  
Possible derivatives: calculateur, calculable, calculette, calculeux (-euse), inclaculable, calculabilité  
Note: If a student write calcule, accept as the verb calculer and not as the mispelled noun calcul.
No. 5  RECOLLER

Roots:  colle, coller

Possible derivatives:  collage, recollage, recollement, décoller, décollement, décollage, collant (e), colleur (-euse), encollage, encoller, encolleur, incollable

Note:  Give only one mark if the word colle is repeated twice even though the student might have meant the noun and the conjugated form of the verb coller. Accept recollable, collable and décollable even though do not seem to exist in a French dictionary. They are used by francophones.

Do not accept collement, recolleur (-euse), accoler.

Part III

1.  d
2.  c
3.  a
4.  a
5.  b
6.  d
7.  b
8.  b
9.  b
10.  a
11.  a
12.  c
Part IV

- For the strict marking, there should not be any spelling mistakes, except for accents. (See the exception for no. 1.) For the lenient scoring, accept words that are misspelled (letters missing in the roots) as long as the endings as indicated are right.
- Indicate marks as follow: for each number, the first digit is for the lenient scoring and the second one is for the strict scoring. Indicate total score as follow: \( L = /12; \ S = /12 \)
- The letters in the endings we want students to include are indicated below.

1. LA MAGNANIMITÉ (Accept as lenient if the accent is missing.)
2. CATALEPTIQUE
3. GANGRENEUX
4. MAGNÉTISER (Accept magnétise as lenient.)
5. UN ROTATEUR
6. INDUBITABLEMENT
7. LA STÉRÉOTOMIE
8. RÉCITATIF (RÉCITATIVE)
9. ASPIRER (Accept aspire as lenient. Do not accept aspiré.)
10. ANGÉLIQUEMENT
11. LA CAUSALGIE
12. RADIOLOGIQUE